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Undergraduate Catalog

CLARION

University of Pennsylvania





# **Clarion University of Pennsylvania**

Clarion, Pennsylvania 16214

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Catalog Issue 1990-91





# **Student Responsibility for Academic Program**

Students are held responsible for academic policies and procedures as well as the general education requirements as published in the catalog for the year in which they entered the University.

Students are held responsible for the requirements of a major as published in the catalog at the time they declared a major.

If students change majors they are responsible for the requirements of the major as published in the catalog during the year in which they changed the major.

With the permission of the appropriate department chairperson and dean, students may choose to meet curricular requirements as published in a catalog subsequent to the time at which they entered the University or declared a major.

Clarion University of Pennsylvania is authorized under Federal law to enroll non-immigrant alien students.

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# Clarion University

## Academic Calendar 1989-90

(Subject to change without notice)

### Summer Sessions—1989

First five-week session . . . . . June 5-July 7  
Second five-week session . . . . . July 10-August 11

### Fall Semester 1989

Registration for day and evening classes . . . . . Monday, August 28  
Classes begin 8:00 A.M. . . . . Monday, August 28  
Labor Day Holiday . . . . . Monday, September 4  
Thanksgiving Holiday begins 10:00 P.M. . . . . Tuesday, November 21  
Thanksgiving Holiday ends 8:00 A.M. . . . . Monday, November 27  
Classes end 10:00 P.M. . . . . Friday, December 8  
Reading Day . . . . . Saturday, December 9  
Final examination period begins . . . . . Monday, December 11  
Final examination period ends 10:00 P.M. . . . . Friday, December 15  
Semester ends 10:00 P.M. . . . . Friday, December 15  
Winter Commencement . . . . . Saturday, December 16

### Spring Semester 1990

Registration for day and evening classes . . . . . Tuesday, January 16  
Classes begin 8:00 A.M. . . . . Tuesday, January 16  
Winter Holiday begins 10:00 P.M. . . . . Friday, March 2  
Winter Holiday ends 8:00 A.M. . . . . Monday, March 12  
Spring Vacation begins 10:00 P.M. . . . . Wednesday, April 11  
Spring Vacation ends 8:00 A.M. . . . . Tuesday, April 17  
Classes end 10:00 P.M. . . . . Friday, May 4  
Reading Day . . . . . Saturday, May 5  
Final examination period begins . . . . . Monday, May 7  
Final examination period ends 10:00 P.M. . . . . Friday, May 11  
Semester ends 10:00 P.M. . . . . Friday, May 11  
Clarion Campus Commencement . . . . . Saturday, May 12  
Venango Campus Commencement . . . . . Sunday, May 13

# Clarion University

## Academic Calendar 1990-91

(Subject to change without notice)

### Summer Sessions—1990

First five-week session . . . . . June 11-July 13  
Second five-week session . . . . . July 16-August 17

### Fall Semester 1990

Registration for day and evening classes . . . . . Monday, August 27  
Classes begin 8:00 A.M. . . . . Monday, August 27  
Labor Day Holiday . . . . . Monday, September 3  
Thanksgiving Holiday begins 10:00 P.M. . . . . Tuesday, November 20  
Thanksgiving Holiday ends 8:00 A.M. . . . . Monday, November 26  
Classes end 10:00 P.M. . . . . Friday, December 7  
Reading Day . . . . . Saturday, December 8  
Final examination period begins . . . . . Monday, December 10  
Final examination period ends 10:00 P.M. . . . . Friday, December 14  
Semester ends 10:00 P.M. . . . . Friday, December 14  
Winter Commencement . . . . . Friday, December 14

### Spring Semester 1991

Registration for day and evening classes . . . . . Monday, January 14  
Classes begin 8:00 A.M. . . . . Monday, January 14  
Martin Luther King Holiday . . . . . Monday, January 21  
Winter Holiday begins 10:00 P.M. . . . . Friday, March 1  
Winter Holiday ends 8:00 A.M. . . . . Monday, March 11  
Spring Vacation begins 10:00 P.M. . . . . Wednesday, March 27  
Spring Vacation ends 8:00 A.M. . . . . Tuesday, April 2  
Classes end 10:00 P.M. . . . . Friday, May 3  
Reading Day . . . . . Saturday, May 4  
Final examination period begins . . . . . Monday, May 6  
Final examination period ends 10:00 P.M. . . . . Friday, May 10  
Semester ends 10:00 P.M. . . . . Friday, May 10  
Clarion Campus Commencement . . . . . Saturday, May 11  
Venango Campus Commencement . . . . . Sunday, May 12

### Summer Sessions—1991

First five-week session . . . . . June 3-July 5  
Second five-week session . . . . . July 8-August 9





# **General Information**

## **The University Mission**

The mission of Clarion University is to provide a broad range of instructional programs, including associate degree programs; upper-division courses for students who have obtained the first two years of post-secondary education elsewhere; baccalaureate degree programs in the arts and sciences and applied fields, including teacher education; graduate programs in selected fields; and continuing education to meet the needs and interests of citizens.

Clarion University is committed to seeking excellence in all areas of higher education within its mission and to provide an environment which challenges students to develop their talents, to extend their intellectual capacities and interests, to expand their creative abilities, and to develop a life-long respect and enthusiasm for learning. The university is dedicated to helping students see in themselves what they may become, assisting them with an opportunity to develop the knowledge, skills, and attitudes required for entrance into a variety of careers and for participation in a free society as enlightened citizens capable of making wise and responsible choices.

In meeting its commitments, the university recognizes its responsibility to admit and retain qualified and enterprising students; to secure and maintain highly qualified and dedicated faculty and staff; to provide an intellectual and social climate conducive to the fullest development of students, to strive for inspired teaching and effective courses of study; to maintain high academic and professional standards for students, faculty, and staff; to provide classrooms, libraries, laboratories, and other facilities necessary to support high quality undergraduate and graduate programs; to encourage students and faculty to contribute to new knowledge through research activities; and to provide community and public service programs which are responsive to the needs of society and consistent with the responsibilities and mission of the university.

Approved by the Council of Trustees on 9/17/86

## **Clarion Campus**

Now well into its second century of service to the people of Pennsylvania, Clarion University has successively been Carrier Seminary, a state normal school, a state teachers' college, a state college, and beginning July 1, 1983, a University. Each phase of this development has marked a stage in the continuing effort of the institution to respond to the educational needs and aspirations of increasing numbers of students.

Today, Clarion University is a multi-purpose institution with an enrollment of approximately 6100 students offering associate degrees in five areas; sixty-seven baccalaureate programs leading to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, and the Bachelor of Science in Nursing; and eleven graduate programs leading to the Master of Arts, Master of Business Administration, Master of Education, Master of Science, and Master of Science in Library Science.

The main campus of the University contains ninety-nine acres and forty-three buildings, the majority of which were constructed within the past twenty years. Beyond the main campus, situated at the west end of the town Clarion, is a

27-acre athletic complex with football, baseball and practice fields and Memorial Stadium, seating 5,000 spectators. The university is within the Borough of Clarion some two miles north of Interstate 80 at Exits 9 and 10 and is approximately two and one half hours driving time from the urban centers of Pittsburgh, Erie, and Youngstown. High on the Allegheny Plateau overlooking the Clarion River, the rural setting is in the midst of one of Pennsylvania's most scenic resort areas. The rolling wooded countryside, interspersed with small farms, affords some of the most enjoyable outdoor activities to be found anywhere in northwestern Pennsylvania, and the Clarion River provides an excellent setting for summer boating, swimming, and aquatic sports.

Among facilities supporting programs at Clarion University are Carlson Library housed in a modern library building with a large and continually growing collection, the George R. Lewis Computer Center operating Digital Equipment Corporation computers and associated equipment, several microcomputer laboratories, a planetarium, modern science laboratories having excellent instrumentation, well equipped support areas for special education and speech pathology and audiology, a modern business administration building, technologically equipped classrooms for library science, radio and television studios and experimental audio-visual facilities in the College of Communication, and a writing center, tutorial services, and a counseling center to assist students who can benefit from these services.

## Facilities

ALUMNI HOUSE on Wood Street contains offices for the Alumni Association, and Public Affairs.

BALLENTINE RESIDENCE HALL, located on Wood Street, houses 116 men.

BECHT RESIDENCE HALL, also on Wood Street, houses 160 women plus faculty offices for psychology and modern languages.

BECKER HALL, at Greenville Avenue and Thorn Street, houses the College of Communication, and the Computer Information Science Department.

CAMPBELL RESIDENCE HALL houses 450 students. It is located at the corner of Payne and Wilson Avenues.

CARLSON LIBRARY is on the central campus just off Wood Street. (See page 8.)

CARRIER ADMINISTRATION BUILDING at Main Street and Ninth Avenue, houses offices for the President and staff, The Provost and Academic Vice President and staff, the Vice President for Administration and staff; Office of the Registrar, Business Office, Personnel, Affirmative Action, Student Accounts, Graduate, and Continuing Education offices.

CHANDLER DINING HALL is north of Wood Street behind Ballentine Hall.

CHAPEL THEATRE is located on Wood Street and Eighth Avenue.

DAVIS HALL on Greenville Avenue has classrooms, the office of Educational Opportunities for Student Development, SPA, and the Duplicating Center and Print Shop.

EGBERT HALL is on the central campus behind Carlson Library. It has administrative offices for the Vice President for Student Affairs and staff, the Department of Counseling, the Office of Financial Aid, Career Services and the Housing Office.

FOUNDERS HALL is situated at the corner of Wood and Ninth and houses classrooms, History, APPS departmental offices, College of Arts and Sciences Office, and Foreign Student Center.

GIVEN RESIDENCE HALL, situated on the hill behind Chandler Dining Hall, houses 250 women.

HARVEY HALL is on center campus between Peirce Science and Chandler Dining Hall. It contains the John Nanovsky Multipurpose Area for meetings and dances, student activity offices, and a vending machine snack area.

HASKELL HOUSE, on Wood Street, houses the offices of the Vice President for Development and staff and the Clarion University Foundation.

HAZEL SANDFORD GALLERY is located on the balcony level of Marwick-Boyd auditorium. The permanent collection covers all media, with special emphasis in photography, prints, artist's books, and ceramics. Exhibitions are scheduled throughout the academic year as well as summer sessions with regular gallery hours weekdays and Sundays.

KEELING HEALTH SERVICES CENTER off Wilson Avenue, behind Given Hall, has modern clinical and infirmary facilities located on the first floor. The SPA Diagnostic Center is located on the ground floor.

MARWICK-BOYD FINE ARTS CENTER, which stands at the south corner of Payne Street and Greenville Avenue, provides a 1600 seat auditorium, little theatre, Sandford Art Gallery, classrooms, studios, laboratories, office and exhibit areas for Art, Music, and Speech and Theatre.

McENTIRE MAINTENANCE BUILDING on Wilson Avenue, south of Payne Street, is the center for physical plant maintenance, the motor pool and maintenance shops.

MUSIC HALL, east of Carlson Library, is the residence of the president.

NAIR RESIDENCE HALL provides housing for 450 students and is located on Main Street.

PEIRCE SCIENCE CENTER AND PLANETARIUM between Greenville Avenue and Chandler Dining Hall, provides modern classrooms, laboratories, and offices for Physical Science, Biology, Chemistry, Geography, and Mathematics, a 250 seat lecture hall, and a planetarium.

RALSTON RESIDENCE HALL houses 200 students and is situated on the hill just behind Chandler Dining Hall.

RIEMER CENTER is at the north corner of Wilson Avenue and Payne Street. It offers an attractive lounge, snack bar, cafeteria, meeting rooms, recreation area and coffee house circuit.

SPECIAL EDUCATION CENTER, at the corner of Eighth and Greenville, houses the reception area of the Educational Appraisal Clinic, and therapy rooms, along with some faculty offices and classrooms.

STEVENS HALL, off Greenville Avenue, provides classrooms and faculty offices for Education and Human Services programs, and offices for the College of Education and Human Services.

STILL HALL BUSINESS ADMINISTRATION AND THE LEWIS COMPUTER CENTER are in a single building on the north campus at Main Street and Ninth Avenue housing the departments of Accountancy, Administrative Science, Economics, Finance/Real Estate, and Marketing.

THORN HOUSES #1 and #2 are located on Thorn Street and hold offices for the Military Science Department (ROTC).

TIPPIN GYMNASIUM-NATATORIUM stands at the north center of Payne Street and Greenville Avenue. It houses classrooms, offices, and gym areas for the Health and Physical Education Department, a 3,600 seat arena for varsity sports, and a natatorium.

WILKINSON RESIDENCE HALL houses 450 students on the Main Street area of the campus.

WOOD STREET HOUSE contains the Public Safety Department and the Campus Information Center.

## **Venango Campus**

Venango Campus of Clarion University, established in 1961, was the first branch campus in the Pennsylvania State System of Higher Education. Located in Oil City, Venango Campus is scenically situated on sixty-two acres surrounded by heavily wooded foothills overlooking the Allegheny River.

Venango Campus is appropriate for those students who prefer the atmosphere of a small campus with its capacity for providing individual attention for each student and for permitting and encouraging varied student initiated activities.

Venango Campus offers programs for both part time and full time students. Students may complete the first two years of college or study for one of five associate degrees and concentrations in Arts and Sciences, Business, Nursing, Paralegal Business Studies, and Rehabilitation.

## **Facilities**

RICHARD C. FRAME CLASSROOM BUILDING is a modern building containing classrooms, laboratories, and offices.

ROBERT W. RHOADES CENTER provides student lounge and recreation facilities, a gymnasium, an auditorium-theatre, bookstore, and snack bar.

THE CHARLES L. SUHR LIBRARY BUILDING provides library and study facilities.

MONTGOMERY HALL is a modern classroom and office building which houses the School of Nursing.

# **Student Affairs**

Office: 220 Egbert Hall

Clarion University is concerned not only with the academic development of young men and women, but also with their development as mature, self-confident, socially competent adults. To assist this development, various student personnel services are provided. These services enable those enrolled in the university to perform more adequately as students and to derive benefits from the academic, cultural, social and recreational opportunities offered by the campus environment. In addition, every administrative and teaching member of the faculty is charged with the responsibility of assisting students to select and achieve goals consistent with the ideals of a university community.

## **Student Services**

### **University-Supervised Housing—Residence Halls**

The University Housing Policy states, "The University considers the residential experience to be an important part of a student's educational program. Housing space will be distributed in proportion to the demand by class with special consideration given a student upon recommendation by either the Student Affairs Staff, Health Center or Counseling Staff."

Within each residence hall, there is a cross-section of students representing most aspects of a highly divergent student body, and the housing assignments are made without regard to race, religion, color, ancestry, or national origin. Hall and roommate preferences stated on housing applications are given consideration in making assignments and are honored whenever possible.

The agreement for assignment to residence halls is for the entire academic year unless otherwise specified. The only grounds for an automatic release from the agreement are withdrawal from the University or a change in student teaching or internship assignment.

Housing and food service fees are payable at the same time that other University fees become due. Refunds cannot be made unless the student withdraws from the University or is granted an agreement release. The amount refunded for housing fees is listed in the "Refunds" section of this catalog. Food service fee refunds are governed by a prorated schedule available in the Business Office.

A separate housing and food service application must be submitted for each year. All students returning to residence halls must submit a housing application card at the announced time. Housing information and applications will be mailed to new students prior to registration. After a room assignment is made, the student will be issued agreements to be signed and returned with a non-refundable deposit.

Housing and food services are provided only on a combined basis for students living in the residence halls. Housing and food service agreements may not be transferred or assigned. The meal ticket may be used only by the student to whom it is issued, and a room may be occupied only by the student to whom it is assigned.

Student rooms in the residence halls are furnished with beds, desks, chairs, dressers and closets. Students should plan to furnish pillows, blankets, linen, bed spreads, desk lamps, and small throw rugs. Radios and record players are permitted if they are operated with due consideration for others. Contract linen service is available.

Students are not permitted to keep firearms or weapons in their campus living quarters. The Department of Public Safety will store these articles for students. Students are free to check stored items in and out of the Department of Public Safety at their discretion.

## **Off-Campus Housing**

Students not residing in University-supervised housing live in fraternity houses, rental facilities in the community, or at their own homes. The Housing Office maintains a limited listing of available housing in the community. Householders listing available facilities must comply with all local, state, and federal regulations pertaining to rental units. Other sources of information are local newspapers and realtors.

All arrangements for housing in the community are a business arrangement between the student and the householder. The University does not approve, or make recommendations for, off-campus housing accommodations.

## **Food Service**

Wholesome, well-balanced meals are provided in Chandler Dining Hall by a reputable food service company. Residence Hall agreements include food service. Students not living in residence halls may contract for meals on a semester basis.

## **Student Health Service**

The Student Health Service is located in the Edward J. Keeling Health Services Center. The Health Service provides general health care to enrolled students. The Center is staffed by registered nurses 24 hours per day, seven days a week. A physician and nurse practitioner maintain regular clinic hours and are available on call during nights and weekends. House calls are not made by Health Services staff. Except for emergencies as determined by University staff, transportation to and from the Health Services or local hospital must be provided by the student.

In addition to the treatment of illnesses and injuries, routine physical examinations, information counseling, and some immunizations and allergy injections are available at the Health Services. Many commonly used medications are provided at no additional charge. Medications which are prescribed from a pharmacy, however, must be purchased by the student. Medical equipment such as crutches, canes, slings, braces, etc., are available and may be loaned to students.

### ***Student Health Insurance***

The Health Center fee which students are assessed applies only to treatment and services at Keeling Health Center. Diagnosis, treatment, services or facilities not available at the Health Center, but required due to an illness or accident, are the financial responsibility of the student. These would include, but are not

limited to, x-rays, ambulance, emergency room treatment, setting and casting breaks, and hospitalizations. Without insurance, the cost involved could jeopardize a student's ability to continue his or her education. Therefore, if the students are not covered by parental or their own medical insurance, we strongly urge that such coverage be secured. In addition, university policy requires that students have medical insurance coverage to be eligible for participation in university sanctioned, sponsored and/or approved activities. The assumption is, that when students participate in such activities they are covered by medical insurance and proof of coverage can be produced upon the university's request.

## Department of Counseling Services

The Counseling Services staff provides professional services related to developmental, educational, and career goals as well as to problems of personal, social, and emotional adjustment. These services of the Center are available without charge to all regularly enrolled Clarion University students.

Most students request counseling on their own initiative. Some, however, need encouragement from others to seek counseling assistance. These students may be referred by instructors, academic advisors, residence hall staff, administrators, parents, or fellow students.

In keeping with accepted professional practice, counseling contacts with students are strictly confidential. No information is released to officers of the administration, faculty members, parents, graduate schools, governmental officials, or other outside agencies without the student's written authorization in advance. Rare exceptions to the above policy may occur when, in the counselor's professional opinion, there is a clear, immediate threat to the life or welfare of the student, other students, or the community at large.

The Department of Counseling Services is accredited by the International Association of Counseling Services, Inc.

## Career Services

The Office of Career Services assists graduating students and alumni who are initiating a job search or considering educational preparation beyond the bachelor's degree. A variety of services is available to help individuals put their career plans into action. Some of these services include:

**Credentials.** Students nearing completion of their degree programs may register with the office by establishing a credential file. A \$10.00 credential fee is charged.

**On-Campus Interviews.** Representatives from a variety of organizations—businesses, corporations, social service agencies, school districts, and government—visit the campus during fall and spring semesters to interview graduating students for permanent employment positions.

**Job Vacancy Bulletins.** Job bulletins are published weekly listing vacancies received from 1) education and 2) business, industry and government.

**Job Search Series.** Workshops are offered during fall and spring semesters on credential file preparation, resume writing, interviewing skills and job search strategies. In addition, staff members are available to offer individual assistance to students with career and job search concerns.

**Mock Interview Program.** Scheduled times are available when students can practice their interview skills. The purpose of these practice sessions is to give the student an appreciation of what to expect in a job interview. Mock interviews are videotaped so students can gain both visual feedback as well as constructive verbal feedback from the interviewer.

**Career Library.** Career Services maintains a Career Library which includes information on specific employers, graduate and professional schools, government career opportunities and materials on resume preparation, interviewing skills and job search strategies. A variety of free career-related publications and handouts is available.

Information on the post-graduation activities of Clarion's graduates is available upon request from the Office of Career Services.

## University Library

The Rena M. Carlson Library is a modern, multi-level facility offering a broad range of resources and services to the university community. Located in the center of campus, the Carlson Library contains nearly 365,000 book volumes and 2,000 periodical titles. A computerized catalog makes finding materials quick and efficient. A well-equipped learning resources center, housed on the first floor of the library, contains all types of nonprint materials as well as microcomputers, typewriters, and computer terminals linked to the university's mainframe computer.

Library services to students include assistance with information needs, access to computerized databases to meet research requirements, and instruction in how to use the library. An active interlibrary loan program provides Clarion University students with a way to obtain materials not owned by the library. The recent addition of a satellite dish and short-wave radio brings international, foreign language, and special domestic television programs into the library's Instructional Materials Center for student viewing.

The library maintains an extensive schedule of hours throughout the academic term, including evening and weekend service. Extended late-night study hours are also maintained and students are able to utilize the building for study and reference. Professional librarians are available to answer questions during most of the hours the library is open, and are eager to help students make the best possible use of the vast array of resources and services offered by the library.

## Parking and Automobile Regulations

All provisions of the Vehicle Code of the Commonwealth of Pennsylvania as supplemented by parking regulations issued by the Chancellor, State System of Higher Education and Clarion University will be strictly enforced on the Clarion University Campus. Authority for such enforcement rests with the Director of Public Safety. Persons failing to pay fines will be reported to the District Magistrate and upon conviction will be subject to penalties provided by law.

All persons who possess, maintain, or operate a motor vehicle on campus are required to register such vehicle with the Department of Public Safety. Registering a vehicle does not guarantee a parking space.

1. Persons qualifying for campus parking privileges will be issued a decal indicating that this privilege has been granted and will be assigned to a specific parking area.



2. Any person acquiring the use of a motor vehicle after the regular registration period who intends to operate the vehicle on campus must register the vehicle within twenty-four hours with the Office of the Director of Public Safety. Motor vehicles must be registered even when their use is intermittent rather than regular.

## **Student Activities**

Student activities at Clarion are viewed as another means of self-development. Therefore, the responsibility for the success of any activity or organization must rest with the students involved and ample opportunity exists for gaining experience in leadership and self-government.

## **Student Government**

Through participation in student government, students have an opportunity to gain experience in democratic living and self-government. All students become members of the Clarion Students' Association upon payment of the CSA activity fee and, thereby, are eligible to participate in the election of the Student Senate, the governing body of the Association. The Student Senate is responsible for expenditure of student activity fees through allocations to the various activities and organizations. The Senate has an important relationship to other Association operations such as the University Book Center and the Student Centers. It also appoints student representatives to various standing committees of the University.

Other opportunities for self-government are provided through the governing boards of the Panhellenic Council, Interfraternity Council, University Center Board, Inter-Hall Council, and residence hall councils.

The full utilization of this leadership is a very necessary element of success in any college or university and the maximum development of the leadership potential of each student must be considered an important part of the educational process. It is a well established fact that even though a university may have an excellent faculty and physical plant, it cannot attain true excellence unless it also has a capable and energetic student body able and willing to accept the responsibilities inherent in leadership.

## **Activities Program**

The purpose of an extensive and varied activities program on campus is to make the University experience richer and more enjoyable. Clarion is fortunate to have a wide variety of activities available to its students.

Many of the major cultural and entertainment functions are sponsored by committees of the University Center Board with student activity fees allocated by the Student Senate. Examples of such programs are Homecoming Weekend, coffeehouses, campus movies, pop concerts, and special performances by noted orchestras, drama groups, speakers, etc. Celebration of Black Heritage, intercollegiate athletics, and music and drama performances by CU students and staff are important parts of the total activities program. Honoraries, clubs, and special interest groups further round out this program with speakers, movies, and service projects on and off campus.

Although many of these activities take place in Chandler Dining Hall, Chapel, Marwick-Boyd Auditorium, and Tippin Gym, the two basic facilities for students are Riemer Center and Harvey Hall. Riemer Center provides a snack area with adjoining coffeehouse, TV lounge, conference room, games area, listening room, Center Board Office, ticket office, office of the Director of University Centers, Director of Greek Life and Special Activity Programs, and the Student Activities Office. Harvey Hall provides a meeting/vending area, offices for various student organizations, and a multi-purpose area available for a variety of functions.

The following professional organizations and special interest groups are active on campus. Information on athletics, musical groups, speech activities, media organizations, and Greeks is included later in this section.

## **Honorary Organizations**

Alpha Mu Gamma (Foreign Language)

Alpha Psi Omega (Dramatics)

ARETE (Theatre)

Beta Beta Beta (National Biology)

Gamma Theta Upsilon (Geography)

Kappa Delta Pi (Education)

Kappa Kappa Psi (Band)

Lambda Sigma (Library Science)

Omicron Delta Epsilon (Economics)

Phi Alpha Theta (History)

Phi Beta Alpha (Business)

Phi Eta Sigma (Freshman)

Pi Kappa Delta (Forensics)

Pi Mu Epsilon (Mathematics)

Psi Chi (Psychology)

Sigma Tau Delta (English)

Society for Collegiate Journalists

Tau Beta Sigma (Band)

## **Media Organizations**

Clarion Call (Newspaper)

Sequelle (Yearbook)

WCCB (AM Radio)

WCUC (FM Radio)

## Special Interest Groups

Accounting Club	Jewish Student Association
Alpha Phi Omega	KoinoniaLab Jazz Band
American Chemical Society	Library Media and Information Science Society
American Marketing Association	Lyric Theatre Workshop
American Society for Personnel Administration	Madrigal Singers/Show Choir
Anthropology Association	Management Association
Art Club	Marching Band
Association for Childhood Education International	Mathematics Club
Association of Computing Machinery	Music Educators National Conference
Association of Graduate Business Students	Music Marketing Association
Association of the United States Army	Muslim Students Association
BAACHUS	National Student Speech-Language Hearing Association
Bios Club	Newman Association
Black Student Union	Peace-Seekers
Boxing Club	Pennsylvania State Education Association
Brass Choir	People Understanding Situations of the Handicapped
Center Board	Percussion Ensemble
Circle K	Pershing Rifles
Clarion International Association	Political Economy Club
College Readers	Pre-Law Club
College Republicans	Psychology Club
Concert Choir	Returning Adult & Commuting Students
Council for Exceptional Children	Russian Club
Data Processing and Management Association	Social Economic Association
Debate Team	Society of Physics Students
English Club	Spanish Club
Fellowship of Christian Athletes	Student Senate
French Club	Symphonic Band
German Club	United Campus Ministry
Gospeliers	University-Community Symphony Orchestra
Health Careers Club	University Theatre
Individual Events Team	Volleyball Club
Interhall Council	Young Democrats
International Association of Business Communicators	
Investment Club	

## Athletic Program

INTERCOLLEGIATE ATHLETIC competition plays an important role in the lives of Clarion students. Clarion University is affiliated with the N.C.A.A. Pa. State Athletic Conference and the Eastern Wrestling League.

The present athletic program includes varsity competition for men in baseball, basketball, cross country, football, golf, swimming, track, and wrestling. Competition for women includes basketball, cross country, softball, swimming, tennis, track and field, and volleyball.

Facilities for intercollegiate athletics include the Memorial Stadium and the Waldo S. Tippin Gymnasium-Natatorium. The stadium will seat approximately five thousand spectators for football and track, and has dressing rooms for varsity freshman teams in football, baseball, and track, with separate visiting team dressing, shower, and locker rooms. The football field is surrounded by an all-weather track. The facility also includes a baseball diamond and field, practice football fields, and parking areas for several hundred cars. The Gymnasium-Natatorium, seating approximately four thousand spectators, provides year-round physical education and athletic activities and services.

INTRAMURAL ATHLETICS are provided for men and women students by funds from student activity fees allocated by the Student Senate. The program is planned and supervised by the Department of Health, Physical Education and Recreation. Intramural competition includes touch football, soccer, volleyball, squash, handball, chess, bowling, table tennis, basketball, bridge, "500," wrestling, badminton, archery, billiards, swimming, softball, track and field, water basketball, golf, paddleball, and other areas where interest is sufficient.

## Music Program

CONCERT CHOIR. Membership in the Concert Choir is by audition only. Auditions are held at the beginning of each semester, and membership is open to any student who can satisfactorily pass the audition examination. The Concert Choir has a long and distinguished history as a performing group.

LYRIC THEATRE WORKSHOP. The purpose of the Lyric Theatre Workshop is to offer interested students the opportunity to express their artistic talents and interests in studying and performing literature of the musical theatre. Participants are involved in all facets of stage production including set design and construction, costumes, lighting, staging, set management, props, musical and dramatic direction, makeup, sound and acoustics, instrumental and vocal performance, and dance-choreography. The workshop is open to all students of the University.

MADRIGAL SINGERS. A highly select group of advanced students who possess the techniques and voice which are vital to this specialized area of music. This group is flexible and varies in number from sixteen to twenty voices, depending upon the compositions to be performed. The literature presented by the ensemble represents some of the finest music ever written for voice. In the spring term of each year the group changes to a Show Choir and presents Broadway music with choreography.

MARCHING BAND. Ranked as one of the finest university bands in Pennsylvania, the 120 member Marching Golden Eagles has continued its traditionally outstanding musicianship and marching finesse.

The ideals of the band are geared first to develop musicianship and marching precision; second, to inspire and encourage academic achievement; third, to develop character; and fourth, to develop outstanding leadership ability.

The band appears at all gridiron events and is host to the annual band parents' day and alumni band day events.

A Marching Band Revue culminates the season of performances and travel.

SYMPHONIC BAND is a skilled ensemble of ninety wind and percussion players. Membership is dependent upon the outcome of the audition and particular instrumental needs.

Purposes of the Symphonic Band are to perform literature of the highest aesthetic value, with an emphasis on original works for band; to attain perfection in performance ability through rigid requirements for individual musicianship and advanced playing technique; and to provide a means for artistic expression through participation in a distinctive medium of musical expression.

The repertoire of the band is selected from all periods and styles of composition and is designed to meet a variety of program responsibilities.

The Symphonic Band is featured in two major concerts each year and an Annual Spring Tour. Guest artists and clinicians appearing with the band in recent years include Rafael Mendez, Bob Lowry, Warren Covington, James Burke, Frank Arsenault, Roy Burns, James W. Dunlop, William Bell, Martin Mailman, Robert Washburn, and Roger Pemberton.

SYMPHONY ORCHESTRA is a specialized ensemble of approximately fifty players, dedicated to the performance of mainstream literature for the medium. Its membership is drawn from students, faculty, and the community-at-large. The orchestra offers two major concerts each year featuring faculty and student soloists; the ensemble also assists in choral and operatic presentations as well as special projects calling for orchestral instrumentation. The ensemble tours during the spring semester each academic year. Membership is open to all qualified players by consultation with the conductor.

STRING ENSEMBLE provides its participants the opportunity to perform chamber music works for (and with) strings, compositions for solo instruments with string accompaniments, and the compositions for strings alone. Numbering approximately twenty players, the String Ensemble consists of students from across the campus, laypersons from the community and selected high school students who intend to matriculate at Clarion University of Pennsylvania. The ensemble presents one scheduled concert each semester on the campus; and also offers its services to the community for special programs which may be requested. The String Ensemble sets a tour schedule each spring semester.

LABORATORY JAZZ BAND features a comprehensive study of various schools and styles of jazz through performance, utilizing a jazz ensemble of approximately twenty-five instrumentalists selected on the basis of playing ability. Performance literature includes representative works for large jazz band ranging from styles of the 1930s to the present, with emphasis on recent trends in composition and arranging. The Laboratory Jazz Band presents two formal concerts each year on the university campus and performs for high school and community audiences in tours throughout the Western Pennsylvania area.

BRASS CHOIR is a highly specialized organization offering outstanding students an opportunity to study and perform chamber music for brass. The repertoire is varied with a concentration on early music and music of the twentieth century. Exactitude of intonation, rhythmic precision, phrasing, and proper methods of attack are stressed. The number of students in the Brass Choir will vary somewhat from semester to semester depending upon the instrumentation of the compositions to be performed. Participation is by audition only.

PERCUSSION ENSEMBLE is a highly specialized organization offering outstanding students an opportunity to study and perform chamber music for percussion instruments. Contemporary works, transcriptions of early music, music of various ethnic groups, and jazz-rock works are studied and performed with stress placed on the development of musical concepts and skills such as

phrasing, balance, intonation, rhythmic precision, improvisation, and conducting. The ensemble presents percussion concerts and clinics throughout the year on campus and on tours. Membership is open to all percussion majors and other students by audition.

BRASS, STRING, WOODWIND AND SMALL PERCUSSION ENSEMBLES are organized when the talent and instrumentation are available. Membership in these groups is voluntary.

## Media Programs

THE CLARION CALL is the weekly university newspaper. Funded by the Clarion Student Association, it follows regular newspaper style and format. Staff participation is essential for Communication majors: however, anyone interested in journalistic writing is welcome. Prior experience in journalism is helpful but certainly not necessary for success. Certain editorial and business positions receive financial remuneration.

DARE, which is published under the guidance of the English Department, presents a channel of creative communication for those students whose interests and talents are in this area. This publication is the culmination of the year's best in creative writing by Clarion University students.

THE SEQUELLE is the university yearbook. The staff is comprised of students from all major fields of study. Working on the book provides students with an opportunity to display their creativity in the area of journalism and photography. Prior experience is helpful but not absolutely necessary. Professional help is available to the staff as they plan and assemble the book.

CHANNEL 5-TV serves the Clarion area via Centre Video Cable-Channel 5. Weekly programs, both live and tape, present a unique hands-on opportunity to participate in all aspects of the TV productions.

WCCB RADIO is a student-operated radio station providing music and relevant campus, state, and local news and coverage of the Golden Eagle sports. Disc jockeys, newscasters, and sportscasters are chosen at the completion of broadcast training held each semester. Behind-the-scenes work in public relations, sales, and electronic engineering is available.

WCUC-FM is a non-commercial public radio station serving Clarion County with a power of 1,000 watts. WCUC offers a variety of music, news, sports, and public affairs programming.

## Religious Programs

Clarion University welcomes students of all religious backgrounds. The following programs are available:

THE NEWMAN ASSOCIATION is a religious organization which attempts to meet the needs of students and faculty of any religious denomination at Clarion University. We are under the supervision of the Catholic Diocese of Erie and a priest is assigned to the University. The Newman House is located at 831 Maronee Street. The phone number is 226-6151 or 226-6869.

JEWISH STUDENT ASSOCIATION. Students of the Jewish faith are welcome at the Tree of Life Synagogue which is located in Oil City, Pennsylvania, approximately twenty-five miles from the campus. The Tree of Life Synagogue has an active congregation made up of families who live within about a forty mile radius of Oil City, including several families from the Clarion area.

The J.S.A. also sponsors an active program on the C.U.P. campus.

KOINONIA CHRISTIAN FELLOWSHIP is an active organization on campus. Ten student leaders are in charge of various ministries. The group sponsors weekly fellowship meetings, Bible studies, challenging lectures, weekend social activities, teams of students who visit others, Christian films, etc. Koinonia also has its own singing group (New Creation Singers), a Puppet Ministry, and a Drama Team which conducts local church services upon request. Koinonia, which is inter-denominational, works in cooperation with local churches and encourages Christian collegians to attend and participate in the local church of their choice. Faculty advisor is Dr. George Shirey and Rev. Kenneth Banner is the full-time campus minister and can be reached at 226-4384.

FELLOWSHIP OF CHRISTIAN ATHLETES is a national organization of professional and varsity athletes and coaches. At Clarion the FCA is for all those who desire Christian fellowship and spiritual growth; we serve Christ through numerous activities and ministries.

UNITED CAMPUS MINISTRY is a liaison between local churches and the Clarion University campus. The office of the Coordinator is located in 112 Harvey Hall. A ministry to the entire campus community is planned by a Board of students, pastors, and community laypeople. Participating churches include Grace Lutheran, Immaculate Conception Roman Catholic, First United Methodist, First Presbyterian, and First Baptist.

## **Social Organizations—Greek Life**

Membership in a fraternity or sorority provides an opportunity for students to enhance the value of a university education by fostering scholarship, self-discipline and leadership development through participation in university activities; and community philanthropic services. The membership of the eight national sororities, one local sorority, nine national fraternities, and two local fraternities at Clarion University totals approximately 800 men and women.

SORORITIES—Alpha Sigma Alpha, Alpha Sigma Tau, Delta Phi Epsilon, Delta Sigma Theta, Delta Zeta, Lambda Zeta Tau, Phi Sigma Sigma, Sigma Sigma Sigma, and Zeta Tau Alpha.

FRATERNITIES—Alpha Chi Rho, Delta Chi, Kappa Alpha Psi, Kappa Delta Rho, Phi Sigma, Phi Sigma Kappa, Sigma Chi, Sigma Phi Epsilon, Sigma Tau, Tau Kappa Epsilon, and Theta Chi.

The Panhellenic Council (PANHEL) and the Interfraternity Council (IFC) are the governing bodies of the sororities and fraternities respectively. Each council is composed of delegates from each Greek organization. It is their responsibility to promote cooperation and to coordinate the membership drive (RUSH), membership education (PLEDGING), and provide educational and social programs related to Greek Life.

The Director of Greek Life serves as the advisor to the Panhellenic Council, the Interfraternity Council, individual Greek chapters and their members with regard to goals, directions and development. Questions concerning the Greek system at Clarion University should be directed to the Office of Greek Life and Special Activity Program in 104 Riemer Center.

## Speech and Dramatic Organizations

PI KAPPA DELTA is a national honorary society in forensics. Active debate and individual events team members earn the right to membership in Pi Kappa Delta.

ALPHA PSI OMEGA is a national honorary dramatics fraternity. This organization attempts to further the student's knowledge of and involvement with theatre. The chapter sponsors the Alpha Psi Omega memorial scholarship fund which grants theatre awards to deserving students.

INDIVIDUAL SPEAKING EVENTS TEAM is open to all students interested in competitive speaking. Members compete in persuasive, informative, humorous, extemporaneous, and impromptu speaking, as well as in oral interpretation. Tournaments are held at colleges across the country, and to date the team has traveled to twelve states.

COLLEGE READERS is an organization concerned with literature in performance. The students are involved in the presentation of public programs and participation in Interpretation of Literature Festivals. Performances are presented in all genres of literature and in all performance modes including Readers Theatre. The organization occasionally arranges for lectures, readings by poets and other special events.

DEBATE TEAM is open to any student interested in intercollegiate debating. Clarion competes nationally and has attended tournaments in Louisiana, Arizona, Florida and Washington.

UNIVERSITY THEATRE, the campus dramatic organization, is open to all students interested in gaining experience in performance and technical aspects of theatre. Students are welcome to participate in the four major productions, student-directed plays, and the Summer Drama Workshop.



# **Academic Information**

## **General**

### **Correspondence Directory**

For further information on any of the materials contained in the catalog, contact those officials listed below.

Academic Affairs

Provost or

Associate Vice President for Academic Affairs

Admissions

Dean of Enrollment Management and Academic Records

Alumni Affairs

Alumni Secretary

Business Affairs, Fees, Refunds

Business Manager

Courses and Curricula

Appropriate College Dean

Educational Opportunities Program/Act 101

Director

Financial Aid

Director

Foreign Student

Advisor

Honors Program

Director

Placement Credentials

Career Services

Readmissions and Withdrawals

University Registrar

Special Services Program

Director

Student Affairs, Organizations, Activities

Vice President for Student Affairs

Summer Classes

Associate Vice President for Academic Affairs

Teacher Education Certification

Dean of Education and Human Services

Transcripts and Records

University Registrar

Address for all above named officials:

Clarion University of Pennsylvania

Clarion, Pennsylvania 16214

## Academic Advisement

### *Purpose*

It is the purpose of the academic advisement program at Clarion University to:

1. Assist students in their growth and development.
2. Promote advisor-advisee relationships characterized by trust, mutual respect, and openness.
3. Provide guidance and support for students in their course of academic development through a spirit of shared purposes and freedom of choice in their academic programs.
4. Encourage students to take an active role in developing and completing a sound academic program.
5. Establish a climate of purposeful learning which maximizes student growth and minimizes student withdrawal.

### *Advisor Roles and Responsibilities*

In the advisor-advisee relationship, the student is primarily responsible for seeking academic advisement from the advisor. The central roles and responsibilities of the advisor are:

1. To assist students in developing sound academic programs by:
  - a. Exploring with students their individual interests, abilities, and goals
  - b. Assisting students in developing an academic plan that satisfies graduation requirements
  - c. Offering advice in the selection and sequencing of courses which meet requirements for general education, major, and electives
  - d. Helping students explore career options that are consistent with their programs of study
  - e. Monitoring student progress and helping students make desired adaptations in their programs
2. To make known to students the programs, resources, and services available in the university that may offer information/assistance at the student's particular stage of academic or career development
3. To establish a relationship of trust and openness which will allow students to become increasingly self-directing
4. To be a responsive listener to students in areas of personal concern and to assist them by referral to specialized sources of help when needed
5. To discuss matters of general university adjustment with students
6. To keep informed about university policies, regulations, programs, and procedures in order to answer accurately student questions and concerns.

### *Student Roles and Responsibilities*

Each student must bear ultimate responsibility for the development of his or her academic program and for meeting all graduation requirements.

In the advisor-advisee relationship, the student responsibilities are:

1. To meet with their advisor as frequently as necessary to keep the advisor informed about changes in progress, course selection, career goals, and pre-registration
2. To seek sources of information which will assist them in making life/career decisions

3. To contact the advisor when confronted with major academic problems and to keep the advisor aware of other problems which may affect their academic performance
4. To be an active participant in the advisor-advisee relationship and to become increasingly self-directing in their development as students
5. To meet all graduation requirements, following the academic plan established by students in consultation with their advisor
6. To maintain personal records of academic progress and to resolve any discrepancies on the official grade reports
7. To become knowledgeable about university regulations, program requirements, and procedures.

## **Academic Policies and Opportunities**

### ***Accelerated Program***

Students who take three summer terms of ten weeks each may finish the four-year course in three years.

### ***Advanced Placement—Credit by Examination***

#### **1. C.L.E.P.**

A maximum of 60 credits may be earned through the College-Level Examination Program (C.L.E.P.). No more than 30 of the 60 credits may be earned after admission. These examinations, administered by the College Entrance Examination Board, may be taken at the Venango Campus of Clarion University on 3rd Fridays. They are designed for adult learners and non-traditional students who have gained college-level knowledge through prior education or training. The College-Level Examination Program includes five general examinations and approximately fifty subject examinations, which if successfully passed, will earn the student 3 credits per examination. Details on the general and subject examinations and minimum acceptable scores are available in the Office of the University Registrar.

#### **2. Advanced Placement Program**

Students may also earn credit and advanced standing through the Advanced Placement Program of the College Entrance Examination Board. This program is designed for high school students who expect to enter college and who have participated in one or more of the advanced classes while in high school. There are eleven subject areas in this program and any high school student who earns a score of three or better in a subject area will be granted at least three credits. The National Advanced Placement Examinations are given in May of each year.

#### **3. Transfer of Credits Earned by Examination**

For transfer students, credits granted by way of C.L.E.P. or Advanced Placement Examinations at other accredited institutions will be accepted if the minimum scores on such examinations meet the minimum standards of Clarion University.

#### **4. Proficiency Examinations**

Course credits not to exceed 38 semester hours may also be earned by proficiency examination for advanced college work administered by the departments in which the particular proficiency is taught. Students who appear to possess a proficiency equal to or greater than that required in a

particular course may make application for such an examination in the Office of the Registrar; the chair of the subject area concerned will determine the validity of the application. Minimum qualifications for proficiency examination applications are as follows: first semester freshmen must have scored 550 or above in the verbal on the SAT; students other than first semester freshmen must have a quality point average of 2.50 or above; in no case may a student earn credit for a course more than once for any given subject. A fee of \$25.00 is charged for each examination taken.

5. **Credit for Life Experience**

Clarion University may grant credit for life experience based upon careful evaluation of such experience. For information, students may contact the Office of the Registrar, the dean of the College in which they are enrolled, or the chair of their major department.

## ***Class Attendance Policy***

Clarion University of Pennsylvania regards student participation in class as essential to the learning process. Therefore, regular classroom attendance is required of all students. Faculty members determine the absence policies for their own classes, except that participation in university sanctioned activities will be excused and the student will be given reasonable assistance when class work is missed. It is understood that absence does not excuse the student from course work and the responsibility to complete assignments on time. If a student knows that a class must be missed, the instructor should be notified in advance and arrangements made to complete the work. The instructor is not required to give make-up examinations or accept class work missed as a result of an unexcused absence.

In the event of an unexpected absence, such as a serious illness, the Office of the Registrar should be notified as soon as possible so that instructors can be informed of the reason for a student's absence. This information is provided to faculty as a courtesy and does not constitute a valid excuse for the student's absence from class. Upon returning to class, a medical excuse must be presented from the student's physician.

## ***Course Numbering***

Courses numbered 100 to 299 inclusive are primarily for Freshmen and Sophomores; 300 to 499 for Juniors and Seniors. Some courses numbered between 400 and 499 are acceptable for graduate credit. Courses numbered above 500 carry graduate credit.

The University reserves the right to change the sequence and number of courses.

## ***Evening Classes***

Evening classes are organized each semester for the convenience of regular students, in-service teachers, and others who may be interested in college courses. Work done in these courses give customary college credit and may be applied toward a degree. Information concerning course offerings may be secured by writing to the Office of the Registrar. Evening classes are part of the regular university program and are an extension of the usual day schedule.

## ***Grade Release Policy***

Public Law 93-380 (The Family Educational Rights and Privacy Act of 1974) prohibits the release of educational records, other than to certain defined exceptions, without the student's consent. One such exception is Section 438(b)(1)(H) which allows release of educational records to, "Parents of a dependent student of such parents, as defined in Section 152 of the Internal Revenue Code of 1954."

Under the provisions of Section 438, the Office of the Registrar will send grades to parents. Students who are not dependents, meaning they are not so claimed by parents for income tax purposes, may have their grades withheld from their parents by filing a request at the Office of the Registrar that their grades are not to be sent home.

## ***Independent Study***

Independent study opportunities are available to students dependent upon faculty and financial resources available. Acceptance of students for independent study is voluntary on the part of a faculty member and must be approved by the appropriate department chair, college dean, and the Office of Vice President for Academic Affairs. Students accepted for independent study are upon request entitled to five hours of faculty time for each hour of independent study credit carried.

## ***Nondiscrimination on the Basis of Handicap***

Federal Law (Section 504 of the Rehabilitation Act of 1973) provides that no qualified handicapped person shall, on the basis of handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity that receives or benefits from federal financial assistance. This provision of law applies to Clarion University and the effect of this law is to ensure that:

1. no one may be excluded from any course, or course of study, on account of handicap;
2. classes may be rescheduled for students with mobility impairment if they are scheduled for inaccessible classrooms;
3. academic degree or course requirements may be modified in certain instances to ensure full participation by handicapped students;
4. alternate methods of testing and evaluation are available in all courses offered by the university for students with requirements for such methods;
5. auxiliary aids are made available by the university for students with impaired sensory, manual, or speaking skills;
6. certain campus rules and regulations may be waived if they limit the participation of handicapped students; and
7. housing opportunities, employment opportunities, and other opportunities for handicapped students are equal to those of non-handicapped students.

As part of the university registration process, students are provided with a form on which they may list any special accommodations required due to handicap. If a student experiences difficulty in obtaining such special accommodations, the student may submit an appeal or grievance to the department head or other university official responsible for the accommodations and, if necessary, to the Section 504 coordinator.

## ***Reserve Officers' Training Corps (ROTC)***

Clarion University of Pennsylvania hosts a detachment of the U.S. Army Reserve Officers' Training Corps. Enrollment in the first two years of ROTC incurs no military obligation and allows the option of competing for an ROTC scholarship. Successful completion of the Advanced course ROTC program and upon graduation from Clarion, the student will receive a commission as a Second Lieutenant in the United States Army. Newly commissioned officers serve on active duty or with the Army Reserve or National Guard.

Students seeking advanced degrees can be granted an educational delay following completion of their baccalaureate degrees. Additional information can be obtained at the Military Science Department office. Curriculum details are presented elsewhere in this catalog.

## ***Second Baccalaureate Degree***

Students may earn a second baccalaureate degree at Clarion by completing a minimum of 30 credit hours (excluding physical education activities) beyond those taken for the first degree and by completing all of the requirements for the second degree. Students who remain in continuous residence at Clarion University after obtaining one degree may go on to finish the second in a total of 158 credit hours, but students who have been graduated from Clarion and left the university and students who have a baccalaureate degree from another institution, must complete a minimum of 30 additional credit hours for a second degree regardless of the number taken for the first degree.

It is not necessary to complete a second degree in order to earn a second major. The student seeking a second major must fulfill all requirements for that major but may choose not to meet requirements related to earning a second degree. For example, a student working toward the B.A. degree with a certain major may wish to earn teaching certification for that same field and can schedule a good share of the courses required for certification as free electives. As a result the student may be able to complete all teacher certification requirements without earning a total of 30 credits beyond the 128 required for the B.A., as would be necessary to achieve the addition of the B.S. in Education.

## ***Senior Citizens***

Persons on social security or equivalent retirement benefits are given remission of fees for classes where space is available.

## ***Student Records***

Student academic and personal records are confidential in nature and shall be released only to appropriate faculty and administrative officers and to parents and guardians if the student is a dependent. Release of these records to other persons, institutions, or governmental and legal agencies shall occur only upon approval by the student or graduate or upon subpoena.

Transcripts of academic work are available to the student or graduate at the Office of the Registrar when requested by him or her in writing. The first transcript is free; thereafter, the charge is \$3.00 per transcript.

Clarion University uses students' social security numbers solely for identification and recordkeeping purposes. Disclosure of the SSN is not mandatory and alternative identification numbers will be issued if requested.

### ***Study Abroad—International Education***

Clarion University, as part of its mission to serve the educational needs of the citizens of the Commonwealth of Pennsylvania, is dedicated to strengthening the international and intercultural dimensions of its programs and activities. The leadership of the University recognizes the interdependence of nations and peoples throughout the world.

There are currently about 180 international students from more than 50 countries on the Clarion campus. International students are important members of the Clarion University community. Their presence reflects a deep appreciation for their intellectual capacities and their cultural contributions to this University. The international students on the Clarion campus also present the University with the opportunity to influence significantly future leaders and scholars around the world.

Clarion University is committed to providing a wide variety of study abroad, exchange, and internship programs for American students. Internships are available in Switzerland, Germany, Belgium, and France, and in Latin America. Exchange agreements offer Clarion students the opportunity to pay tuition to CUP, but attend any of over 100 universities in Australia, Hong Kong, Korea, Sweden, France, Germany, Great Britain, Tanzania, Brazil, and more than 25 other countries.

In the heart of French Canada and within a reasonable driving distance from Clarion, the University of Quebec, Trois Rivières, offers programs and courses at all levels for the summer as well as the regular academic year. The summer program at the University of Quebec has many exciting features: large selection of courses, beautiful campus, excellent food, many cultural activities, sightseeing trips in historical Quebec Province, and the opportunity to live with French speaking families. An exchange agreement allows students interested in French to study abroad in France, Belgium, Switzerland, or francophone Africa. Internships are available in Belgium and France.

A wide range of programs is available for students in Germany and Switzerland. A special feature for our students are paid internships in Germany and Switzerland. Year-long programs of study and internship are available at several German Universities, including Philipps University in Marburg and the University of Kassel.

Attractive and inexpensive exchange and junior-year abroad programs are available for the United Kingdom and Ireland. Clarion has close relations with Trent and Plymouth Polytechnics, the University of Nottingham and the University of Ulster. In Ireland, Clarion has ties to the National Institute of Higher Education in Dublin and the University College of Galway on the beautiful western coast of Ireland.

A special Clarion exchange program with Dutch universities, including the University of Amsterdam, the University of Utrecht, and the Maastricht Institute of Language, provides Clarion students with an opportunity to study the history, culture, language, and economy of the Netherlands. Similar year-long programs of study are available at universities in Korea and Australia (Victoria College).

Clarion University offers a broad spectrum of programs for students interested in Spanish. Two programs in Mexico are especially designed for students who are not majoring in Spanish, but who would like to augment their business, communications, or arts and sciences diploma with Spanish-language proficiency. Exchange agreements with Colombia, Peru, Costa Rica, Spain and Mexico provide opportunities for Clarion students to study abroad in Latin America or the Iberian peninsula. A special exchange relationship with the University of San Miguel de Tucuman in Argentina will be available during the 1989-90 and succeeding academic years. Clarion students may also take advantage of a seven-week summer session at the University of Valencia on the Mediterranean coast of Spain or a six-week program at the University of the Americas in Puebla, Mexico. Courses in Spanish language and literature are offered at all levels, from first semester Spanish through in-service teacher graduate work.

The CUP Office of International Programs (OIP) coordinates and administers all international-related activities on campus, including the International Student Office, Study Abroad Programs, Exchange Programs for Faculty and Students, and the dissemination of information on grant and fellowship possibilities. The Director of the OIP is the campus coordinator of the Fulbright and ISEP programs. The International Internship Program is also coordinated through the OIP. The OIP organizes forum, film and guest speaker programs on important world issues each semester in conjunction with the Clarion International Association.

## ***Summer Session***

The Summer Session is maintained for the benefit of regular Clarion University students, incoming freshmen, students in good academic standing at other institutions, graduates of approved colleges and universities, teachers who wish to meet certification requirements, certain high school students, and any adults who wish to attend classes. In addition to the regular undergraduate and graduate course offerings, there are also workshops and special programs.

Clarion University and the surrounding area offer numerous opportunities for summer activities. There are normally two consecutive five-week sessions. Interested persons should contact the Summer Sessions Office for details.

## ***Veterans' Affairs***

Clarion is approved by the Veterans Administration to offer the regular degree curricula to veterans and children of deceased veterans.

Credit for educational experience in the armed services is allowed on the basis of the recommendations of the American Council on Education.

The university grants a maximum of 4 credits in Health and Physical Education for active military service of 6 months or more with honorable discharge or continued reserve status. Credit is normally given for HPE 111, (2 credits), and 2 HPE activity courses of 1 credit each. To assure that the credit is granted, veterans should bring an honorable discharge document to the Office of the Registrar, 122 Carrier.



## Admissions

### Admission of Freshmen

In accordance with the principles governing admission adopted by the Commission of Presidents, four general requirements have been established for admission to Clarion University:

1. General Scholarship
2. Character and Personality
3. Health and Physical Vigor
4. College Entrance Examination Board Test or American College Test.

Applicants for admission must satisfy the following requirements as outlined in detail below:

1. General scholarship as evidenced by graduation from an approved secondary school or equivalent preparation as determined by the Division of Professional Certification and Credentials Evaluation Division of the Pennsylvania State System of Higher Education. The applicant must submit scores earned on the Scholastic Aptitude Test administered by the College Entrance Examination Board or scores earned in the American College Testing Program. Arrangements for taking these examinations are to be made through the high school guidance counselor.
2. Satisfactory character and personality traits as well as proper attitudes and interests as determined by the high school principal, guidance director, or other school official acquainted with the student.
3. Health and physical vigor: Clarion University subscribes to and supports in letter and spirit Section 504 of the Rehabilitation Act of 1973 (Public Law 93-112), which prohibits discrimination on the basis of handicap. Therefore, the role of Admissions in application of this criterion is to be aware of the institutional obligation under Section 504 and to help the applicant understand that the university wishes to support his or her efforts to meet the requirements of a program he or she chooses. In instances in which a student has a handicap which would render success in a chosen field unlikely, the matter should be brought to the attention of the Director who will alert the appropriate dean so that reasonable counseling may be used. Specific questions related to this criterion should be referred to the Dean of Enrollment Management.
4. Request the College Entrance Examination Board of the American College Testing Program to forward aptitude test scores to Clarion.

All liberal arts applicants and education applicants who intend to major in a foreign language must schedule an achievement test in the language, if that language has been studied in high school. The achievement tests are administered by the College Entrance Examination Board. Arrangements to take the tests may be made through the high school counselor.

### *Admission of Freshmen in August, 1990*

Applicants for admission to the freshman class in 1990 should read and observe carefully the following procedure:

1. Come in or send to the Admissions Office of the University for the forms necessary in making application for admission. There are two of these: (1) application and personnel record blank and (2) the report from secondary school officials.

2. Send the personnel record to the University along with an application fee of \$15.00 payable to Clarion University of Pennsylvania. This fee is not refundable. The secondary school record must be sent directly to the University by the principal or other school official. A medical form is to be completed after the applicant has been accepted.
3. A registration deposit of \$50.00 must be paid when the applicant receives notice of approval of his or her application for admission. This fee is not refundable but is credited toward the student's basic fee upon registration.
4. Clarion University applicants may ask for a decision as early as July 1 following their junior year in high school. This would require the applicant to have taken the Scholastic Aptitude Test or the American College Test in the junior year.

### ***New Student Orientation***

All new students are expected to attend one orientation session prior to their matriculation. Usually nine two-day sessions are conducted the second week in June through mid July. Parents are welcome and encouraged to attend with their sons or daughters.

The primary objectives of the program are to help entering students make the transition from their previous environment to Clarion University and to enhance their success in college. In order to facilitate this adjustment and allow the students to pursue their education in the best possible manner, the curricular and co-curricular aspects of university life are experienced and explored in large and small groups. Students will have an opportunity to meet with faculty members and receive some academic advisement prior to selection of courses for fall semester.

Registration forms and instructions for the New Student Orientation Program will be mailed during the spring semester prior to enrollment. Students entering in January also may attend orientation during the summer.

## **Credit Transfer Policy**

### ***Residence Requirements***

Generally, to be eligible for a baccalaureate degree from Clarion University, students must meet all requirements for the degree, including a minimum of 45 semester hours of credit in residence from the last 64 required for graduation. Student teaching is in addition to the 45 hour residence requirement. For the associate degree, students must meet all the requirements of the degree, including a minimum of 30 semester hours of credit. All credits, including transfer credits, must be approved by the appropriate college dean or director and department chair of the academic area in which the degree is to be granted.

## ***Transfer Policy and Admission with Advance Standing***

Clarion University welcomes applications from students who wish to transfer from another college or university to Clarion. Certain guidelines have been established to provide uniformity of transfer standards.

1. Students may transfer credits from regionally and/or nationally recognized accredited institutions.
2. Students seeking to transfer must be in good academic and social standing at the transferring institution. It is the applicant's responsibility to submit official transcripts and other necessary materials for evaluation.
3. The initial evaluation of the transcripts takes place in the Admissions Office. Students will be informed, on request, which transferred courses will be accepted by the University. The final evaluation is done by the college Dean of the student's major. The college dean will determine whether the course will be considered as part of the major or as an elective.
4. Credits are transferable but grades and quality points are not.
5. Credits will transfer only if a student has earned a "C" grade or better in a course.
6. All courses transferred must be recognized in content and quality as similar to courses in the appropriate academic curriculum offered by Clarion University. Correspondence and remedial courses are not transferable.
7. Transfer students must fill out the regular application for admission to the university, have high school and college transcripts sent to the Admissions Office, and pay the \$15 non-refundable application fee.
8. Applicants who hold the Associate of Science or Arts degree from a Pennsylvania community college will be accepted by the university and granted two full years of academic credit.
9. Clarion University generally does not accept more than 64 credits from two-year institutions. Applicants from Pennsylvania community colleges without the Associate Degree of Science or Arts will be processed as any other transfer applicant.

## **Foreign Students**

Students who have been graduated from high school (or equivalent) where the language of instruction is not English, will be exempted from any general foreign language requirement at Clarion University. Neither academic credit nor life experience credit will be granted for knowledge of one's native language, except when specific courses offered at Clarion University are taken or challenged by examination.

## **Part-Time Admissions**

Students who wish to participate in the part-time admissions program must obtain a Quick Admit form from the Admissions Office.

A part-time student MAY apply for degree candidacy after the completion of 11 credit hours. A part-time student MUST apply and be approved for degree candidacy by the time he or she has earned 11 credit hours. This process includes the non-refundable application fee, high school transcripts, and college transcripts, if applicable. STUDENTS WHO HAVE NOT BEEN APPROVED FOR DEGREE CANDIDACY AFTER THE COMPLETION OF 11 CREDIT HOURS OF

PART-TIME STUDY WILL NOT BE PERMITTED TO CONTINUE AT THE UNIVERSITY.

## **Withdrawals**

All class withdrawals must be made through the Office of the Registrar. Classes from which a student withdraws during the period of drop/add will not appear on his or her record. Withdrawals between the end of the second and ninth weeks may be made without penalty. After the beginning of the tenth week of a semester or the second half of a summer session, a course from which a student withdraws shall be finally reported with a grade of "E." Exceptions may be made for withdrawals due to extenuating circumstances such as illness or some other unavoidable occurrence.

Students on probation at the time of withdrawal from all classes who withdrawal after the twelfth week of the semester will not be permitted to return for the following semester unless the withdrawal is based on extenuating circumstances.

If a withdrawal is not made through the Office of the Registrar, a failing grade will be recorded for the affected course(s).

Any student who withdraws from the university either during or at the end of a semester must notify the Office of the Registrar of his or her intention to withdraw and the reason for withdrawal. This is necessary for completion of the student's permanent record. Failure to comply with this regulation will constitute an unofficial withdrawal and may affect the student's chances of future readmission or his or her obtaining an honorable dismissal.

## **Scholarship Requirements**

Student progress is normally reported once each semester. At the end of the first six weeks, each staff member submits to the Office of the Registrar a report of all freshman students doing unsatisfactory work in their classes. These reports are recorded and then passed on to the students.

## **General Policies**

Scholarship policy at Clarion University is formulated by the Sub-committee on Academic Standards, which is a sub-committee of the Faculty Senate.

Scholastic standing of students is determined on the basis of a quality point system in which a grade of "A" equals 4 quality points per semester hour; "B" equals 3; "C" equals 2; "D" equals 1; and "E" equals 0. The number of quality points earned in a single course for one semester is determined by multiplying the quality point value of the course grade by the number of semester hours in the course; thus, a grade of "A" in a three semester hour course has a quality point value of 12. A student's quality point average at any specific time is determined by dividing the total number of quality points earned in all courses by the total number of quality hours. For example, if a student earned a total of 30 quality points for 15 quality hours of course work in a single semester, his or her quality point average for the semester would be 2.00.

At the end of each semester, a student's quality point average is calculated for that semester and also for all the course work he or she has taken up to and including the semester just completed. The latter is known as the cumulative quality point average.

Scholarship policy for two year programs requires that students earn a minimum quality point average of 1.75 their first semester and a 2.00 their second semester and thereafter in order to be in satisfactory academic standing. The cumulative quality point average should be 2.00 by the end of the second semester.

In order to remain in the Medical Technology Program, students must maintain the following grade point average: first semester freshmen, 2.0; second semester freshmen and first semester sophomores, 2.5; thereafter 2.5 with a 2.5 in the natural sciences. Exceptions to these requirements must be approved by the Coordinator of Medical Technology.

Admission to the Medical Technology Program at the university does not guarantee admission to the year in the hospital laboratory. Hospital spaces are limited and admissions standards, which are under the control of the individual hospitals, are quite high.

Business students pursuing the BSBA who enter the College or University in the summer or fall of 1982 (or afterward) must apply for admission to the College's Upper Division. Students should apply after they have completed 50 semester hours of work and have met certain other Upper Division requirements. In addition, business administration students must meet graduation standards beyond general University requirements. These academic standards are fully described under the "College of Business Administration" entry later in this catalog.

## ***Teacher Education Selection and Retention Standards***

### **I. Certification Requirements**

- A. Complete all program requirements of the Teacher Certification program at Clarion University.
- B. Pass appropriate Pennsylvania Department of Education examinations in:
  - 1. General Education
  - 2. Content Area(s) of Certification
  - 3. Professional Education
  - 4. Basic Skills
- \*C. Satisfy mental and physical qualifications as established by the Pennsylvania Department of Education.

\*Compliance with the Public School Code of 1949, as amended, Article XII, Section 1209, which in part provides that teaching certification may not be issued if the "applicant is either mentally or physically disqualified, by reason of tuberculosis or any other communicable disease or by reason of mental disorder from successful performance of the duties of a teacher."

- D. Any academic, physical, or mental deficiencies, noted at any point in the student's program, that would prevent the candidate from fulfilling the responsibilities of the certification area, must be removed before admission to a teacher certification program. Deficiencies identified after admission to the certification program must be removed before the candidate may continue in the program.

## II. Certification Sequence

### A. Admission to Teacher Certification Program Requirements:

1. Completion of 60 semester hours including 6-9 semester hours of introductory professional courses to be determined by the appropriate departmental faculty of the College of Education and Human Services. These introductory courses must be completed with a grade of C or better.
2. Basic skill competency in written expression, oral communication, and computation as evidenced by grades of C or better in ENG 111, SCT 113, ED 217, and a mathematics course numbered MATH 110 or higher. Accepted university proficiency examinations may be substituted for courses as specified in the catalog.
3. A minimum quality point average of 2.5 for all courses completed.
4. Pass a competency test of basic skills.

### B. Admission to Student Teaching

1. Satisfactory standing in relation to all admission and retention requirements of the University and the College of Education and Human Services.
2. Completion of at least 90 semester hours of university credit.
3. Satisfactory completion of all required professional courses in the certification area. These courses must be completed with a grade of C or better.
4. A minimum cumulative quality point average of 2.5 for all course work.

### C. Graduation Requirements

1. Fulfillment of all university standards for graduation.
2. A minimum grade of C in each student teaching experience.
3. A minimum cumulative quality point average of 2.5 for all course work.

## III. Procedures: Students are responsible for:

### A. Seeing that application forms are completed for:

1. Admission to Teacher Certification
2. Admission to Student Teaching
3. Graduation from the University
4. Certification from the Commonwealth

### B. Meeting with their advisors at each of these checkpoints for conferencing and to obtain the appropriate forms.

### C. Arranging for any tests needed to comply with the Public School Code of 1949, as amended, Article XII, Section 1209.

## Grading System

- A Excellent
- B Good
- C Satisfactory
- D Poor
- E Failure
- CR Credit
- CX Credit by Examination
- Inc indicates incomplete work
- P Passing
- W indicates withdrawal from a course
- WX indicates withdrawal from the university
- Z grade not submitted (Temporary)
- Au Audit

Inc (incomplete) is not used unless a student has been in attendance throughout a semester or session. It indicates that the work of a student is incomplete and that the final grade is being withheld until the student fulfills all the requirements of the course. It is used only when conditions and circumstances warrant and when evidence is presented to justify its being given.

Students receiving incomplete grades are required to make arrangements with the instructor who submitted the incomplete grade to fulfill the requirements of the course by the end of the following semester or the incomplete becomes a failing grade. Incompletes are not removed by repeating the course.

### *Credit-No Record Courses*

After students have earned a minimum of 30 semester hours of credit and are in good academic standing, they may schedule a maximum of 6 courses or 18 semester hours for Credit-No Record. One such course may be taken each semester or summer session. This regulation does not apply to MATH 100 or internships in the cooperative education program. All such internships are automatically Credit-No Record. Courses in one's major field may not be taken for Credit-No Record. The option for taking a course for Credit-No Record is limited to the first five weeks of each semester, and the first four days of any five week summer session. Satisfactory work in a Credit-No Record course shall be shown on the grade report as "CR," with no record and no credit for less than satisfactory work. Satisfactory work is defined as the equivalent of "C" grade or better under the letter grading system currently in use by the university. Students who desire to have a Credit-No Record course changed from "CR" to a letter grade must retake the course. Credit-No Record courses are counted in determining the course load for a semester.

## Graduation Requirements

Students must present a minimum cumulative quality point average (QPA) of 2.00 on a 4.00 scale except in Colleges where the stated QPA requirements are higher. Beginning with enrollments for the summer or fall of 1982, students must also present a minimum QPA of 2.00 on a 4.00 scale in the major. Major courses are all those courses in Group II and III on the check sheet. All candidates for undergraduate degrees must have a minimum of 128 semester hours of credit (Music Education requires 130-131), and must have met the general education

requirement in English 111 with a "C" or better in order to qualify for graduation.

For the Associate of Science degree, students must have a cumulative quality point average of 2.00 on a 4.00 scale, and beginning with the summer or fall of 1982, they must also present a minimum of 2.00 on a 4.00 scale in the major. All AS graduates must have a minimum of 62 semester hours of credit to qualify for graduation.

Students should study carefully requirements for individual programs presented in the section of this catalog detailing the program.

## **Class Standings**

Class standings (freshmen, sophomores, etc.) are determined by credits earned rather than by semesters of residence: Freshmen, 1-31 credits; Sophomores, 32-63 credits; Juniors, 64-95 credits; Seniors, 96-128+ credits.

## **Good Academic Standing**

To be in good academic standing at Clarion, undergraduate students must maintain a minimum quality point average of 2.00 for both semester and cumulative averages. Individual programs may have higher requirements.

## **Student Testing Program**

All new freshmen and transfer students are required to participate in the University testing program to measure the degree of growth among its degree seeking students. A post-test will be required in order to measure progress.

## **Academic Probation**

To be in good academic standing, undergraduate students must maintain a minimum quality point average of 2.00 for both semester and cumulative averages.

Students falling below the 2.00 standard in either the semester or cumulative average will be placed on academic probation effective the next semester of attendance.

**Sophomore, junior, and senior** students with a cumulative average lower than 2.00 who fail to achieve at least a 2.00 semester average while on probation will be suspended.

**Second semester freshmen** on probation who fail to achieve at least a 1.75 **cumulative** or a 2.00 **semester** average will be suspended.

## **Academic Suspension**

1. Students on probation who fail to achieve either a 2.00 semester or 2.00 cumulative average will be suspended. Students who are placed on probation or suspension will be notified by certified mail at the end of a fall or spring semester. A copy will be sent to the student's parent or guardian if the student is a dependent as defined elsewhere in this catalog.
2. Students notified of academic suspension have the following alternatives:
  - a. The student may apply for readmission to Clarion after an absence of one or more semesters provided the suspension was the student's first.



- b. The student may attend summer sessions at Clarion. If the student earns the required **cumulative** average by the end of the summer, the suspension will be rescinded **and the student will be continued on probationary status for the fall semester.**
  - c. The student may appeal the suspension, **in writing**, to the Academic Standards Committee if the poor academic performance was caused by unusual circumstances beyond the student's control or if for other reasons it is not indicative of future performance. Such petitions should be filed with the committee through the Office of the Registrar one week before the beginning of classes for both the spring and fall semesters. The format of the appeal should follow the guidelines given under READMISSION below.
3. Suspended students are permitted to take 6 credits at another accredited institution after consulting with their dean. Clarion permits transfer of these credits provided the credits are applicable to the student's program and a grade of C or better is earned. Clarion accepts credits and grades from accredited institutions, but quality points do not transfer.

## Readmission

Students appealing an academic suspension or applying for readmission after an academic suspension must apply in writing to the Office of the Registrar. Deadline is one week before the beginning of classes for both the spring and fall semesters. Students readmitted following academic suspension are on probationary status for at least the semester of their readmission regardless of their academic performance during any interim summer periods.

Use the following guidelines when writing the petition. If possible, include independent documentation and/or references in the petition.

1. A statement indicating why the academic performance was so poor.
2. A statement indicating how the student expects to improve his or her academic performance and how he or she intends to correct the problem as stated in item 1.
3. If possible, a statement concerning the projected course of study, if a change of majors is planned.
4. Students returning to school after a suspension should indicate what they have been doing since last attending Clarion.
5. Any other statements and supporting evidence thought helpful to the committee in deciding the petition.

## Maximum Credit Hour Load

The normal credit hour load for undergraduate students in good academic standing is 15 to 18 credit hours per semester and 6 to 7 credit hours per five-week summer session. Students on academic probation should not attempt more than 12 to 15 credit hours per semester.

Students wishing to register for 19 to 21 credit hours during any one semester or more than 7 credit hours for a five-week summer session must have a cumulative quality point average of 3.00 or better or the written permission of the appropriate college dean. Students are required to pay for each credit over 18.

All scholastic standards noted above are subject to change by the university.

## Repeat Grade Policy

Students shall be permitted to repeat any and all courses as often as they choose; however, once they have graduated from the University a course cannot be repeated for the purpose of improving one's cumulative undergraduate or graduate quality point average.

The latest repeat grade shall be the counting grade in the quality point average prior to graduation. The quality points, quality hours, and earned hours of the original grade received will be subtracted from the student's cumulative statistics.

## Honors

Academic honors are recognized with a semester Dean's List and with the traditional honors designations of Cum Laude, Magna Cum Laude, and Summa Cum Laude at graduation.

To be included on the semester Dean's List, students must be enrolled for a minimum of 12 credits not including credits by proficiency examinations, and achieve a semester QPA of at least a 3.50. Cum Laude honors are awarded for a cumulative quality point average of 3.40-3.59; Magna Cum Laude for 3.60-3.79; and Summa Cum Laude for 3.80 to 4.00 rounded to the nearest thousandths. In order to earn graduation honors, students must have earned at least 32 credits at Clarion.

For information concerning honorary kinds of recognition that may be accorded by various colleges and departments, students should inquire at the office of their major department and/or the office of the dean of the college in which they are enrolled.

## Honors Program

The Honors Program is an academic opportunity for students whose intellectual and creative interests and abilities extend beyond conventional university offerings. The program gives students the opportunity to enrich their education through specially designed courses and extracurricular involvement.

In honors courses students pursue subjects in depth and across disciplines. They interact closely with faculty members in informal settings as well as in the classroom. Honors Program special events contribute to an enhanced academic and social environment.

The Honors Program is available to qualified students enrolled in a baccalaureate degree program of studies. Entering freshmen may apply for admission to the program, and may be accepted on the basis of academic performance (top fifth of high school class), aptitude (SAT of 1050 or higher, or ACT scores of 25 or higher), a written statement, and recommendations. Students already enrolled may also apply to the Honors Program.

Honors courses may replace certain general studies courses required for any major. To earn an honors degree, a student must complete a minimum of 21 honors credits and maintain the academic standards of the program. Three of the 21 honors credits must be earned in the student's major area of study. These hours are taken as part of the student's degree program and do not represent credits beyond normal graduation requirements.

Honors graduates receive special recognition at the annual Honors Convocation and at commencement ceremonies. Their transcripts indicate that they completed the Honors Program.

Excellent scholarships and financial aid provisions are available for students enrolled in the Honors Program. Clarion University is a member of the National Collegiate Honors Council, placing it in contact with honors programs nationwide.

Additional information may be obtained by contacting the Honors Program Director.

## **Academic Support Services**

**Isaiah Sessoms, Ph.D., Chair**

Office: 212 Davis Hall

Telephone: 2321

The University is committed to the academic growth and development of all students. In order to assure these goals, the University has established the Office of Academic Support Services which incorporates students and faculty development, academic advisement and academic support for students. There are five programs within the Division of Academic Support Services.

## **Student Development Services**

**Mr. Lou Tripodi, Director**

212 Davis Hall

Student Development Services provides academic support services to students who may encounter some form of difficulty with their academic subjects and/or basic skills. Those students who are having trouble understanding basic concepts, ideas or mechanical processes can receive content tutoring in most lower division subjects. Students who are experiencing difficulty with reading comprehension, notetaking, and/or time management can receive assistance in Reading/Study Skills.

The tutorial sessions give students the opportunity to receive indepth clarification and to identify and apply specific reading/study skills required in their academic programs. Most sessions are one-to-one or small group interaction.

Instruction in reading/study skills is available through course work and individual tutoring. Areas covered by instruction and tutoring are notetaking, listening, time management, and comprehension.

GS 100—College Reading/Study Skills is a two-credit course offered each semester. Students will be helped to identify and apply the specific reading/study skills required in their academic program.

Any student may request individual evaluation and tutoring. This is especially recommended for those students having limited problems, as well as for those students needing long-term assistance.

## **Educational Opportunities Program, Act 101**

**Dr. Isaiah Sessoms, Director**

212 Davis Hall

Students enrolled in the Educational Opportunities-Act 101 program participate in a six-week Pre-College Summer Experience. Participants can earn up to six academic credits for courses in English and Math, and also complete seminars in Reading/Study Skills, Speech, and Personal Development. In addition, participants receive an extensive orientation to university life. During both the summer and the academic year, support services offered include financial aid counseling, individual analysis of study habits and supervised study sessions, and assistance in career planning and decision making. Finally, the Program sponsors extracurricular activities intended to enrich the student's total experience. Students accepted into this Program must meet eligibility requirements as established by the institution and the Pennsylvania State System of Higher Education.

## **Special Services Program**

**Mr. Gregory Clary, Director**

216 Davis Hall

Students admitted to the Special Services Program are provided support services which include tutoring, academic advising, and career and financial aid counseling. During the academic year, workshops and on-going services which focus on academic survival and learning-to-learn activities are offered. A reserved section of English 105 as well as reserved slots in General Studies 100 - Reading/Study Skills are also offered to program students. The Program seeks to provide physically handicapped students enrolled at the University with the support services which they may need to realize academic success. Students accepted in the Program must meet eligibility requirements established by the institution and the U.S. Department of Education.

## **Project Upward Bound**

**Ms. Cynthia Pellock, Director**

216 Davis Hall

As part of the University's commitment to serve the community, Clarion's Upward Bound Program is designed to generate in selected area high school students the academic skills and motivation necessary for success in college. The Program operates in two segments—the Academic Year Component and the Summer Residential Program. Support services such as tutoring, visits to postsecondary educational institutions, and career and personal counseling are provided year-round. The six-week Summer Residential Program offers Program participants an opportunity to experience college life while residing on campus. Students receive intensive basic skills instruction and exposure to a variety of cultural and social activities on and off campus. Students are chosen for the program based on eligibility criteria as established by the Program and the U.S. Department of Education.

## Minority Curriculum Development Program

201 Davis Hall

The Minority Curriculum Development Program is based on the philosophy that we live in a multicultural world which must be reflected in the University curricula. It emphasizes three objectives: (1) to infuse the minority experience into the regular curriculum as opposed to offering it as appendage material; (2) to expose students to the multidimensional challenges that intergroup relations present, by both expanding the students' knowledge base and by causing them to reassess their values; and (3) to develop educational outcomes within disciplines or professions that measure the students' ability to understand and/or apply relevant information that infuses the minority experience.

The Coordinator provides technical assistance to selected academic departments in the identification of appropriate courses and resources for the infusion of the Afro-American experience in the curriculum. The coordinator also provides bibliographies and teaching strategies which include, but are not limited to, textbook suggestions, case studies, biographies, and specific articles which will support the infusion model.

## Undergraduate Degree Programs

Clarion University offers combined academic and professional curricula leading to the undergraduate degrees of Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Science, Bachelor of Science in Business Administration, and Bachelor of Science in Education, as well as certification for teaching in the public elementary, middle, and secondary schools of the Commonwealth of Pennsylvania.

Additionally, it offers associate degree programs and a Bachelor of Science in Nursing at its Venango Campus in Oil City. See Venango Campus, page 136.

## Program Listing

Accounting	BSBA
Anthropology	BA
Art	BFA
Biology	BA, BS, MS
Business Administration	AS, MBA
Accounting	*
Computer Info. Process	*
General Management	*
Office Management	*
Paralegal Business Studies	AS
Legal Assistant	*
Legal Secretary	*
Pre-MBA (Arts & Sciences)	*
Chemistry	BA, BS
Chemistry/Business	*
Chemistry/Pre-MBA	*
Chemistry/Polymer Science	*
Chemistry/Engineering Co-op	*
Coaching Curriculum	**

Communication	BS, MS
Computer Science	BS
Computer Science	***
Computer Application & Information Systems	BS
Computer Application & Info. Systems	***
Early Childhood Education	BSED
Earth Science	BA, BS
Economics	BA, BSBA
Elementary Education	BSED, MED
Elementary Education/Early Childhood	BSED
Elementary Education/Library Science	BSED
Elementary Education/Special Education	BSED
Engineering Co-op Program	*
English	BA, MA
Finance	BSBA
French	BA
General Studies: Arts & Sciences	AA, BS
Geography	BA, BS
Geology	BS
German	BA
History	BA
Humanities	BA
Industrial Relations	BSBA
International Business	***
Library Science	BSED, MSLS, CAS#
Library Science/Arts & Sciences	+
Management	BSBA
Management/Library Science	BSBA
Marketing	BSBA
Mathematics	BA, BS
Math/Actuarial	*
Math/Applied	*
Math/Computer Science	*
Mathematics/Engineering Co-op	*
Medical Technology	BS
Music Education	BSED
Music-Marketing	BM
Music-Performance	BM
Natural Sciences	BA
Nursing	BSN, ASN
Office Management	BSBA
Paralegal Business Studies	AS
Legal Assistant	*
Legal Secretary	*
Philosophy	BA
Physics	BA, BS
Physics/Engineering Co-op	*
Political Science	BA
Psychology	BA, BS
Reading	MED
Real Estate	BSBA

Rehabilitative Sciences	BS
Rehab. Sci./Developmentally Disabled	*
Rehab. Sci./Gerontology	*
Rehab. Sci./Substance Abuse	*
Rehabilitative Services	AS
Russian	BA
Science Education	MED
Secondary Education, Biology	BSED
Environmental Education	**
Secondary Education, Chemistry	BSED
Secondary Education, Communication Arts	BSED
Secondary Education, Earth & Space Science	BSED
Secondary Education, English	BSED
Secondary Education, French	BSED
Secondary Education, General Science	BSED
Secondary Education, German	BSED
Secondary Education, Mathematics	BSED, MED
Secondary Education, Physics	BSED
Secondary Education, Russian	BSED
Secondary Education, Social Studies	BSED
Secondary Education, Spanish	BSED
Social Sciences	BA
Sociology	BA
Sociology/Psychology	BA
Spanish	BA
Special Education	BSED, MS
Special Ed./Rehabilitative Sciences	*
Special Education/Rehabilitative Science	BSED
Speech Communication	BA
Speech Communication & Theatre	BA, BS
Speech Pathology & Audiology: Spch. Sci.	BS
Speech Pathology & Audiology	MS, MED
Audiology	*
Speech Pathology	*
Supervision (Education)	**
Theatre	BFA
Acting	*
Design	*

\* Concentration only

\*\* Certification only

\*\*\* "Minor" program

# Post-Masters Certificate of Advanced Studies

+ Concentration only, degree earned in Arts & Sciences program of choice

# **Financial Information**

## **General Information**

All charges for a semester are payable in full prior to the first day of classes for that semester. After that a \$25.00 late registration fee is assessed. All accounts are carried in the name of the student. Bills and statements are mailed to the student, not the parent.

The university expects students to be financially responsible. Financially delinquent students will not be allowed to register for courses, and academic records will be withheld until all financial obligations to the university have been satisfied.

The financial requirements of the university, changing costs, state and legislative action and other matters may require an adjustment of these charges and expenses. The university reserves the right to make such adjustments to the estimated charges and expenses as may from time to time be necessary in the opinion of the Board of Governors or the Council of Trustees up to the date of final registration for a given academic term. The applicant acknowledges this reservation by the submission of an application or by registration.

## **Invoices and Statements**

Semester bills are mailed to the student's home address approximately 45 days before the start of a semester. Charges are calculated using preregistration, room sign-up information, and data supplied by the Admissions Office. To avoid being charged the \$25 late registration fee, students who have not received a bill before the start of classes should inform the Accounts Receivable Office. Checks in the required amount should be made payable to Clarion University of Pennsylvania or C.U.P.A.

## **Schedule of Charges**

### **Application Fee**

A non-refundable application fee of \$15.00 must accompany each application.

### **Tuition**

Tuition is set by the Board of Governors of the State System of Higher Education.

### ***Undergraduate Tuition***

#### **Academic Year and Summer Session**

PA Resident:

Full-time (12-18 credits)	\$1,065.00/semester
For each credit over 18 credits	89.00/credit
Part-time (Fewer than 12 credits)	89.00/credit



Non-PA Resident:	
Full-time (12-18 credits)	\$1,776.00/semester
For each credit over 18 credits	148.00/credit
Part-time (Fewer than 12 credits)	148.00/credit

## Room and Board Charges

For double occupancy of a furnished room, the charge is \$605 per semester. A supplemental charge is assessed when students choose to occupy a double room on a single basis. A limited number of single rooms are available at an additional cost of \$150 per semester.

Students are responsible for damages, breakage, loss or delayed return of university property. Students are also collectively responsible for damages in common areas of residence halls.

The rental agreement for university residence halls is for one academic year.

All dormitory residents must participate in one of the following board plans.

Full Meal Plan	\$500.00/Semester
Fifteen Meal Plan	\$470.00/Semester

Partial meal plans are available for students who do not live in university residence halls.

Five Meal Plan	\$220.00/Semester
Ten Meal Plan	\$355.00/Semester

The summer room and board charge is determined on the basis of university costs and is estimated per five-week session to be \$400.

## *Room Deposits*

Residence hall students are required to make a non-refundable deposit of \$75.00 to reserve a room for the fall semester. The deposit is credited to the spring semester room charges.

## Fees

### *Student Activity Fee*

A \$54 per semester activity fee is collected from all full-time students and is administered through a student organization approved by the Council of Trustees. Students taking between 6-8 credits are charged 25% of full activity fee. Those taking 9-11 credits are charged 50% of full-time activity fee. The activity fee covers the cost of athletic, social, musical, theatre and recreational activities. Student teachers and internship students practicing outside a 50-mile radius of Clarion, (as established by a map on file at the Clarion Student Association Office) are assessed one half of the activity fee per semester.

### *Health Center Fees*

A Health Center fee of \$40.00 per semester is charged to all full-time students. Exempt from the fee are students who are assigned to an internship, student teaching or similar program outside a 50-mile radius of Clarion and who are not scheduled for any classes or student activities on the Clarion Campus.

### ***Late Fee***

A late registration fee of \$25.00 is charged to all students not registered for classes by the registration deadline. The late registration fee is also assessed to students who are late paying their semester bill.

### ***Books and Supplies***

The cost of books and supplies depends on the courses in which a student is enrolled. Books and supplies are not billed on the semester invoice. They must be paid to the University Bookstore at the time of purchase.

### ***Applied Music Fee***

Students who enroll in one or more Applied Music courses are required to pay a fee of \$40.00. This fee must be paid each semester in which Applied Music courses are scheduled.

### ***Acceptance Deposit***

A \$50.00 acceptance deposit must be paid upon receipt of notice of approval of application. This \$50.00 fee is not refundable, but is deducted from the student's first semester fees.

### ***Transcript Fee***

One copy of a transcript of credits earned at Clarion is issued free of charge. A charge of \$3.00 is made for each subsequent transcript. Transcripts will not be issued to anyone who has unpaid bills, library fines, or damage fees on his or her account.

### ***Educational Services Fee***

An Educational Services Fee must be paid by all students. Students taking 1-6 credits are assessed \$2.50 per semester, 7-9 credits \$5.00 per semester, and 10 credits or more \$10.00 per semester. This fee, voted by students, is used by the university to upgrade instructional equipment, improve library holdings, and for other instructional support purposes.

### ***Student Community Building Fee***

The fee is mandated by State Law to retire the general obligation bonds for the Riemer Student Community Building. Students carrying 1-6 credits are assessed \$2.50 per semester, 7-9 credits \$5.00 per semester and 10 or more credits \$10.00 per semester.

### ***Clinical Appraisal Fee***

A \$20.00 fee is charged for each clinical appraisal conducted by the Speech and Hearing Clinic.

### ***Nursery School Fee***

The enrollment charge is \$150.00 for each child per semester.

Career Services Fees

Credential Registration Fee

Graduating Students: \$10.00 to establish a credential file and have it maintained in the Office of Career Services for six years.  
Alumni: \$10.00 per year to continue maintaining a credential file in the Office of Career Services after the sixth year.

Job Bulletin Subscription Fee

\$15.00 for a six-month subscription to the weekly Education Bulletin.  
\$15.00 for a six-month subscription to the weekly Business, Industry, and Government Bulletin.

Both Services

Students/Alumni may take advantage of both credential and job bulletin services for a fee of \$20.00.

Refunds

Students leaving the university before the end of a semester may be eligible for a refund.

Tuition, Activity Fee and Room Charges

A student eligible for a refund must officially withdraw through the Office of the Registrar. For refund purposes, each “week” will be a university work week and will end on Friday at the close of university business hours. The first week will end on the first Friday following the start of classes. Refunds for room, tuition and activity fees will be based on the following schedule:

Withdrawal Refund Schedule

Date of Withdrawal	Percentage of the Tuition, Room, and Activity fee charges which will be cancelled.
1st and 2nd week	.80%
3rd Week	.70%
4th Week	.60%
5th Week	.50%
After the 5th Week	The student is obligated to pay full semester charges.

Late fees, Student Community Building fees, Health Center fees, Career Placement Services fees and Educational Services fees are not refundable.

A meal ticket will be refunded on a pro-rated basis after the Accounts Receivable Office is notified of the cancellation.

In no case will fees be reduced or refunded because of voluntary absence from the university.

**Five-week Summer Session**

	Percentage of the Tuition, Room, and Activity fee charges which will be cancelled.
Date of Withdrawal	
1st Week . . . . .	60%
2nd Week . . . . .	40%
After the 2nd Week . . . . .	The student is obligated to pay full session charges.

**Rules Governing Residency****Original Classification**

A student is classified as a resident or non-resident for tuition purposes at the time of admission to the university. The decision, made by the Dean of Enrollment Management and Academic Records, is based upon information furnished by the student's application and other relevant information. No student once having registered as an out-of-state student is eligible for resident classification in the university unless he or she has been a bona fide domiciliary of the state for at least a year immediately prior to registration for the term for which resident status is claimed. This requirement does not prejudice the right of a student admitted as a non-resident to be placed thereafter on a resident basis provided he or she has acquired a bona fide domicile of a year's duration within the state.

**Change of Classification**

For university purposes, a student does not acquire a domicile in Pennsylvania until he or she has been here for at least one year primarily as a permanent resident and not merely as a student. If the student is enrolled for a full academic program, as defined by the university, it will be presumed that the student is in Pennsylvania for educational purposes and the burden will be on the student to prove otherwise. In general, members of the armed forces and their dependents are normally granted in-state tuition rate during the period when they are on active duty within the State of Pennsylvania. Members of the armed forces who were domiciled in Pennsylvania immediately preceding entry into government service and who have continuously maintained Pennsylvania as a legal residence, will be presumed to have a Pennsylvania domicile.

Subject to the provisions of the preceding paragraph, the domicile of an unmarried minor, or of a student who is claimed as a dependent on the parent's (or legally appointed guardian's) federal income tax return, follows that of the parent or guardian.

Students receiving financial assistance dependent upon domicile in a state other than Pennsylvania are not domiciled in Pennsylvania.

To change residency status the student must fill out a "Residency Classification Data Collection Form" and additionally furnish convincing documentary evidence to support a claim of Pennsylvania domicile. Factors which will be considered in the determination of residence include but are not limited to: the holding of a Pennsylvania driver's license, purchase or lease of a permanent independent residence, marriage to a Pennsylvania resident,

automobile and other property registered in Pennsylvania, agreement for, or permanent full-time employment in Pennsylvania, voter registration.

Residency Classification Data Collection Forms may be obtained from, and the completed document and supporting materials returned to, the Director of Financial Management in 218 Carrier Administration Building.

## **Financial Assistance**

**Mr. Kenneth Grugel, M.A., Director**

Financial assistance is available to students in the form of scholarships, grants, loans, and employment. Detailed information and necessary application forms may be secured from the Office of Financial Aid. Since the determination of eligibility is based on an analysis of a current Needs Analysis Application, students are encouraged to file a Pennsylvania State Grant/Federal Student Aid Application and designate Clarion University to receive a copy of that form. These applications are available from Pennsylvania high schools or directly from the Office of Financial Aid at Clarion University of Pennsylvania.

## **Grants, Loans and Employment**

### ***Pennsylvania and Federal Grants***

**PENNSYLVANIA HIGHER EDUCATION ASSISTANCE AGENCY GRANTS**—The determination of recipients of these grants is made by the Agency. The grants vary in amount and are based on the financial need of Pennsylvania students. Application forms may be secured from the Agency, high school guidance counselors, or Clarion University of Pennsylvania. A listing of non-Pennsylvania state grants is available upon request from the Office of Financial Aid.

**PELL GRANTS**—Federal grants available to undergraduate students for a maximum of five academic years. Recipients determined by the U.S. Department of Education based on financial need. The PHEAA application form can also be utilized as your PELL grant application form.

**SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS**—Federal grants available to students with financial need as defined by the U.S. Department of Education and awarded by the Office of Financial Aid. These awards are determined on an individual basis by the Office of Financial Aid at Clarion University of Pennsylvania.

### ***Loans***

**CARL D. PERKINS LOAN PROGRAM**—This program provides for loans to students who have a demonstrated need for financial assistance and who are in good academic standing.

To be eligible for consideration for a loan, students must complete an application form, have a current Needs Analysis Form on file in the Office of Financial Aid, be a citizen of the United States or have declared an intention to obtain citizenship, and be enrolled or accepted for enrollment as a student.

These loans, which are non-interest bearing while a student is enrolled, are available to a maximum of \$4,500 for the first two years with a limit of \$9,000 for the bachelor's degree. Repayment of the loan may extend over a ten-year

period beginning nine months after graduation from Clarion. Repayments are to be made on a quarterly basis with interest accruing at the rate of five percent per year.

In specified teaching situations, as much as fifteen percent of the loan may be canceled for each year of teaching. The borrower's obligation to repay the loan is canceled in the event of death or permanent and total disability.

**STAFFORD LOAN PROGRAM**—Loans to a maximum of \$2,625 per academic year for 1st and 2nd year students and \$4,000 for 3rd, 4th, and 5th year students to a limit of \$17,250 for students in good academic standing are generally available from local banks and savings and loan associations. Stafford Student Loans are based on need which must be demonstrated through an approved need analysis system. Our approved form is the PHEAA application. Application forms and detailed information may be secured from the financial institution from which a loan will be requested. An 8% rate of interest for new borrowers begins accruing six months after graduation or withdrawal, and repayment may extend over a ten-year period. After four years of repayment, interest becomes 10%.

**PARENT LOAN FOR UNDERGRADUATE STUDENTS (PLUS)—SUPPLEMENTAL LOANS TO STUDENTS (SLS)**—Loans available to parents of CUP students or independent students of up to \$4,000 in an academic year. Not based on financial need but may not exceed the cost of instruction less other forms of assistance. Repayment begins sixty days after receiving the loan and has a 10% rate of interest. Applications are available at participating lending institutions.

**PHEAA ALTERNATIVE LOANS—PHEAA/Higher Education Loan Plan (PHEAA/HELP)**—These loans are designed to meet the needs of students and families who can't borrow sufficient funds through the GSL Program to meet their educational costs. This loan package combines eligibility in one GSL program with a privately insured Supplemental Loan. Eligibility for the Supplemental Loan is based on the need for funds as certified by the school and the credit worthiness of the applicant with an annual income of at least \$25,000. A co-signer will be required for each student applicant. Currently the PHEAA/HELP loan can provide up to \$10,000 annually to meet costs of education. Undergraduate and graduate level applications for PHEAA/HELP loans will be available through post-secondary institutions and participating lenders.

**CLARION UNIVERSITY FOUNDATION REVOLVING LOAN FUND**—The Foundation has established a loan fund, for educational purposes only, which is available to full-time undergraduate students in good standing. Loans may be granted to a maximum of \$200. The loans are interest-free for 60 days. Thereafter, a \$10.00 late fee is imposed. Application forms may be secured from the Foundation Office.

**ALEXANDER HREACHMACK REVOLVING LOAN FUND—EMERGENCY LOAN**—Similar in purpose and administration to the Foundation Loan, Hreachmack Loans have a maximum value of \$100.00, are interest-free for sixty days, and have a \$25.00 late fee. Loans are due and payable prior to graduation or the end of each semester. Applications are available in the Office of Financial Aid.

**Loan Repayment Chart (Payback period = 10 years)**

<i>Amount Borrowed</i>	<i>Approximate Monthly Repayment for:</i>	
	<i>NDSL (5% interest)</i>	<i>(8% interest)</i>
\$ 5,000	\$ 53.03	\$ 60.67
7,000	74.25	84.93
10,000	106.07	121.33
11,000	116.67	---
12,000	127.28	---
15,000	---	182.00

***Employment***

Employment on a part-time basis is available to the extent that funds are provided by the federal government and the Commonwealth of Pennsylvania. The assignment of students to part-time campus positions is generally based on financial need; however, it should be recognized that such employment will not be sufficient to meet the total expenses of attending Clarion.

**FEDERAL WORK-STUDY PROGRAM**—The university participates in the Federal Work-Study Program which permits eligible students to work a maximum of 10 hours per week while classes are in session. Eligibility requirements for employment include United States citizenship, demonstrated financial need as determined by a current Needs Analysis Form, and satisfactory academic progress.

**STATE EMPLOYMENT PROGRAM**—Part-time positions are available under this program to students who are maintaining satisfactory academic progress. Most student positions are limited to 10 hours of employment per week.

**JOB LOCATION and DEVELOPMENT PROGRAM**—Funding for the JLD program is received from the Federal government under the College Work-Study Program and is designed to encourage the development of part-time, off-campus, employment opportunities for all Clarion students regardless of financial need.

**Conditions Which Accompany Financial Aid**

In order to continue receiving financial aid following initial enrollment at Clarion University of Pennsylvania, students must meet certain conditions each year. They must be enrolled for at least half-time and must reapply for aid each year using the appropriate forms as mentioned above. Baccalaureate students may receive assistance from most federal, Title IV and state aid programs for each of their undergraduate years providing that they maintain "normal academic progress." This means that undergraduate students must successfully complete a minimum of 24 semester hours by the end of each academic year, including the summer, before they can be granted assistance for their next school year.

Part-time undergraduate students must successfully complete a minimum of 12 semester hours during each academic year, including the summer, to continue receiving any financial assistance.

Graduate students must successfully complete 18 semester hours by the end of each academic year, including the summer, before they can be granted assistance for their next school year.

Part-time graduate students must successfully complete 9 semester hours during each academic year, including the summer, to continue receiving any financial assistance.

For financial aid purposes an undergraduate student becomes a Sophomore after completing 24 semester hours, a Junior with 48, and a Senior with 72. These credit levels for class standing apply to financial aid only and not to other academic considerations. Students should also understand that completing 24 semester hours per year will not qualify them for graduation in four years but rather in 11 semesters. Freshmen and Sophomores that have a 2.0 GPA or are officially permitted to attend Clarion, may continue to receive financial assistance as long as the 24 semester hour progress requirement is met. Once students earn 64 semester hours, Junior standing for graduation requirements, they must maintain a 2.0 cumulative GPA to continue to receive any Title IV financial assistance in addition to completing 24 semester hours each year. (The 2.0 GPA requirement became effective with the Freshman Class of 1991.)

## **Appeal Procedure**

Students denied financial aid for any reason may appeal the denial as follows:

1. Write to the Office of Financial Aid, Clarion University of Pennsylvania, Clarion, PA 16214, noting the denial and stating the reasons why financial aid should not be denied. Example: A student may be denied aid because it appears he or she has fewer than 24 credits for the year. Perhaps during the summer at another institution the student has earned, for transfer to Clarion, credits which will fulfill the normal progress requirement but about which the University has not been informed. The student may present the appeal in person at the Office of Financial Aid in Egbert Hall instead of writing.
2. The Office of Financial Aid will review the denial in terms of information provided by the student.
3. Following the review the Office of Financial Aid will report back to the student concerning the appeal.
4. If the student questions the decision of the Office of Financial Aid an appeal may be made to the Vice President for Student Affairs for a final determination.

## **Refund Policy**

Students receiving financial assistance from Clarion University are subject to the same refund policies as those who are not aid recipients. It should be noted that using any part of a student's financial assistance for a portion of a semester is considered as using that entire semester award for eligibility purposes, i.e. withdrawing after 2 weeks of classes will entitle the student to an 80% refund and will utilize 20% of assistance; however, one semester of eligibility in those aid programs has been used. This may affect a student's academic progress eligibility for the following semester.

## **Scholarships—General University**

The following information illustrates the many scholarship opportunities available to students at Clarion University. Throughout the past year endowed scholarships, annual scholarships, and athletic scholarships provided support to nearly 300 students.



Scholarship opportunities are made available from sources outside the university and from those within. The vast majority of the Clarion administered scholarships are managed by the Development Office at Clarion. Additional information on scholarships administered by external sources can be obtained at the Office of Financial Aid.

### ***Art, Music, Athletics***

**Clarence & Janet Lesser Scholarships:** The trust fund provides 25-30 awards varying in amount from \$200 to \$500. Awards may be renewed subject to the availability of funds at the discretion of the selection committee. Talented candidates, both men and women, will receive preferential consideration for awards to be made in the areas of art, music, and intercollegiate athletics. High school students who have exhibited high interest and achievement are urged to apply. Criteria for selection are talent, academic promise and leadership potential. Application should be made in the spring. The awards are paid each semester as a tuition credit. Contact the Dean of Graduate Studies for additional information.

### ***Arts and Sciences***

**Nancy Shaw McKee Scholarship:** This endowed scholarship will provide one annual scholarship to an undergraduate student (of junior standing or higher) majoring in any area of the Arts and Sciences. The recipient will be selected on basis of academic performance and financial need. The first award will be made during the spring of 1991 and will be approximately \$700.

### ***Athletics***

**Athletic Academic Scholarships:** Two awards, \$100 each, presented to the senior male and female athlete with the highest QPA. Eligible students must participate on any athletic team. Recipients are selected by the Physical Education Department. Payment is made by the Foundation as a tuition credit. See the Athletic Director for further information.

**Ernest. W. Johnson Memorial Baseball Scholarship:** This \$300 scholarship is available to a member of the Clarion University Baseball Team who is a resident of Pennsylvania. In addition, the individual must have completed at least three academic semesters, must have attained the highest grade point average on the team for the previous year, and must be eligible for participation in NCAA events the following year. For further information contact the Athletic Director.

**Fran Shope Scholarship:** A \$300 scholarship to be awarded to a junior or senior woman who has made outstanding contributions to Clarion University Athletics. Contact the director of the women's sports program for additional information.

**W. S. Tippin Scholarships:** The Athletic Scholarship Fund at Clarion is administered by the Athletic Director. Scholarships are available to both men and women who compete on intercollegiate teams at Clarion. Interested students should have their high school coach contact the respective coach at Clarion for additional information.

**George W. Williams Memorial Wrestling Scholarship:** This scholarship was established by Mrs. Nancy Williams in memory of her husband, the voice of Clarion Wrestling, for many years. The award will be made to a member of the University's wrestling team or a graduate student associated with the program. The recipient will be selected based upon the following requirements: academic proficiency, wrestling performance, character, moral standards, and eligibility under NCAA rules. The first award will be made in the spring of 1989 in the amount of \$400. For additional information contact the Wrestling Office.

### ***Foreign Student***

**Bishop's High School Alumni Scholarship:** Scholarship made available by alumnus of Bishop's High School, Tobago, West Indies in the amount of \$1000 per semester. Eligible applicants must be a graduate of Bishop High School attending or planning to attend Clarion University and be enrolled as a full-time student. Application should be made to the Foundation by letter. Deadlines for application are November 1 for spring semester and April 1 for fall semester.

**Sitzman Foreign Student Scholarship Award:** An annual award of up to \$500 will be presented to the outstanding foreign student of the year based on services and activities performed for the University, the Clarion International Association, civic and professional groups, and other activities of academic and/or cultural enrichment. Students receiving this award are selected by a faculty committee. Contact the Director of International Programs for more information.

### ***Music/Band***

**Band Scholarships:** Scholarships are available to students who participate in the Marching and Symphonic Bands. Criteria for selection are musicianship, instrumentation needs, academic promise, and leadership potential. Students are selected by the Conductor of Bands. The annual awards may be renewed subject to the availability of funds. The number and amount may vary each year. For additional information, contact Dr. Stanley Michalski, Conductor of Bands.

### ***ROTC***

**Army Reserve Officers' Training Corp Scholarship:** The U.S. Army offers two, three and four year scholarships to students enrolled in the ROTC program at Clarion University. Two year Reserve Forces Duty Scholarships are available to U.S. Army Reserve and U.S. Army National Guard members. Army ROTC scholarships pay for university tuition, textbooks, activity fee, laboratory fees and other academic expenses plus a subsistence allowance. Applicants compete nationally with other ROTC students. Should a scholarship be granted, the student is required to take selected academic courses to meet Professional Military Education requirements and satisfactorily complete one semester of a modern language. Contact the Military Science Department for further details.

### ***Theatre***

**Theatre Scholarships:** Awards are available to students who participate in the University Theatre. Criteria for selection are attitude, dependability, dedication to theatre, talent and performance promise. Students are selected by

the Theatre staff. The number and the amount may vary from year to year. For additional information, contact Dr. Mary R. Hardwick, Director of Theatre.

## *University Wide*

**APSCUF:** Two \$350 scholarships are awarded each spring by the Association of Pennsylvania State College and University Faculties at Clarion University. Eligible candidates must have completed 60 credits at Clarion. Other selection criteria include academic record, contribution to the university and participation in extra-curricular activities. The award is paid directly to the student but must be used to cover educational expenses. Contact the APSCUF office for further information.

**Clarion University Alumni Association Scholarships:** Ten \$300 tuition credit awards made annually by the Alumni Association through the Foundation. Eligible candidates should have completed at least 16 credits at Clarion. Two scholarships are awarded to children of university graduates; however, any student may apply for the other eight scholarships. Applications are available in September and awards are made during October. Recipients are selected by a committee of the Alumni Association. Contact Mr. Ron Wilshire, Director of Alumni Affairs, for additional information.

**Clarion University Women's Club Scholarship:** A \$300 annual scholarship has been established by the Clarion University Women's Club. In order to meet eligibility requirements the candidates must be of sophomore or higher standing, must have a minimum quality point average of 3.0 and must demonstrate financial need. Preference will be given to women who are single parents. The scholarship will be applied to the recipient's tuition and fees. For additional information contact the Foundation Office.

**Mary/Martha Colegrove Educational Scholarship:** The Foundation offers the Colegrove Educational Fund scholarships. The awards are made to two women from McKean County attending Clarion University in the amount of \$3500 each and payable at the rate of \$875 per person per year. The recipient will continue to receive the award during the second, third, and fourth years if she is enrolled as a full-time student and maintains a QPA of 3.0. For additional information, contact the Dean of Enrollment Management or McKean County High Schools Guidance Counselors.

**Foundation Departmental Scholarships:** Annually, the Clarion University Foundation makes available 32 \$500 scholarships: one to each academic department (27), two to Venango Campus, three to the staff scholarship committee (for dependents of university staff employees). Eligible students must be of sophomore or junior standing as award is a tuition credit during the following semester. Criteria for selection include academic excellence and service to the respective department. Application is made during the spring semester to individual department committees. Contact department chair for further information.

**Foundation Honors Scholarships:** Academically talented students at Clarion University who participate in the Honors Program are eligible for four-year Honors Scholarships. Students are selected on the basis of academic achievement and evidence of leadership and motivation. The \$650 annual scholarships are available for four years providing students maintain the academic standards required by the program. Contact the director of the Honors Program for additional information.

**Walter L. Hart Scholarship:** The Admissions Office, through the Foundation, awards five \$2000 scholarships annually to incoming freshmen. Applicants must have applied and been accepted to the University for the upcoming academic year. Consideration will be given to those students ranked in the top 10% of their graduating class with SAT scores in excess of 1000, who have made outstanding accomplishments and significant contributions through involvement in extra-curricular activities. Two awards are reserved for minority students. Each award will be made in four \$500 increments over a four year period for a total of \$2000, providing that the student maintains a QPA of 3.0. Interested students complying with the above criteria are encouraged to submit a letter of application along with three letters of recommendation to the Dean of Enrollment Management prior to March 30.

**Clara Louise Kiser Memorial Fund Scholarship:** Scholarships, not limited in number or amount, for students graduating from the Clarion Area School District. The scholarships are awarded according to financial need to students planning to attend vocational school or college. Instructions for completing the application process may be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301. Deadline for submissions of application is April 15.

**Margaret and Irvin Leshar Foundation Scholarships:** Scholarships, not limited in number and not specified in amount, granted only to graduates of Union Joint High School. Eligible students may receive the award for up to four years providing they maintain a QPA of 2.5 or above. Recipients are selected on the basis of financial need and academic record. Instructions for complete application process may be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301. Deadline for submission of application is April 15.

**Dean James D. Moore Scholarship:** A \$300 scholarship is available to members of the university's Student Senate. Candidates are evaluated on the basis of academic achievement by a committee of the Student Affairs Division. For further information contact the Foundation Office.

**Dr. Donald A. Nair—Phi Eta Sigma National Honor Society Scholarship (Freshmen):** The Clarion University chapter of Phi Sigma, a member of the Association of College Honor Societies offers one \$300 cash award each year. Candidates must be a member of the Honor Society which requires a minimum 3.5 QPA after one or two semesters. Selection is based on academic record and participation in extra-curricular activities. Contact Dr. Donald A. Nair, Phi Eta Sigma faculty advisor.

**Presidential Scholarships:** Five \$1000 awards are made annually to incoming freshmen and transfer students. Two of the scholarships are awarded to minority students. Decisions are made by a committee of University Deans and the Dean of Enrollment Management with special emphasis placed on outstanding academic achievement, demonstrated leadership qualities, and involvement in extra-curricular activities. Recipients of the Presidential Scholarships will be reviewed annually for consideration of renewal of the award. The scholarships are paid as a tuition credit each semester by the Foundation. Completed applications which include an essay and three letters of recommendation must be submitted before March 30 to the Dean of Enrollment Management.

**State Board of Governors Scholarships:** Twelve awards made each semester to minority students. Candidates must possess a minimum 3.0 QPA. This tuition-based scholarship may vary in amount, depending upon the student's need. Selection criteria include academic record, contribution to the

university and participation in extra-curricular activities. Applications can be obtained in the Admissions Office. Payment is made as a tuition credit by the State Board of Governors.

**Dana S. Still Scholarships:** Several \$200 scholarships will be awarded annually to incoming students. Eligibility will be based upon financial need. Interested students should contact the Dean of Enrollment Management for further information. This is a one-year award. Application deadline is March 30.

**Frank & Clara Williams Scholarship:** Scholarships, not limited in number and not specified in amount, granted to Venango County residents. Eligible students must be full-time freshmen or sophomores. Selection is made based upon financial need and academic record. Instructions for completing the application process may be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301. Deadline for submission of application is April 15.

**Wein Scholarship:** Scholarship awarded on the basis of academic achievement to graduating seniors of Clarion Area High School. Further information as well as instructions for completing the application process may be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301.

## Scholarships—Departmental

### *College of Arts and Sciences*

#### **Biology**

**Biology Department Fund Scholarships:** Two \$300 scholarships awarded to biology or medical technology students who are currently freshmen or sophomores. Students should apply in the spring to the Biology Department scholarship committee. The scholarship committee makes a recommendation to the department based upon academic record, contribution to the department and/or university and participation in extra-curricular activities. Scholarships are paid direct as tuition credit by the Biology Scholarship & Research Fund of the Foundation.

**Outstanding Biology Scholars Award:** Three tuition scholarships valued at \$1,000 each will be awarded annually to B.S. or B.A. Biology majors, Secondary Education Biology majors or Medical Technology majors. Recipients are selected on the following criteria: SAT scores greater than 1200, high school ranking in the 20% and a statement of career goals. Continuance of the award is dependent upon a quality point average of 3.00 or higher and continued participation in the Biology program. Applicants must be in their senior year of high school or have completed their senior year and have submitted their application to Clarion University or have been admitted for their freshman year. Applications must be received no later than December 10. Contact the Biology Department office for additional information.

**Kim Rutherford Memorial Scholarship:** A \$500 tuition credit scholarship awarded each year to a biology major of freshman or sophomore standing. Recipient is selected upon the following criteria: academic excellence, participation in extra-curricular activities, service to the Biology Department and Clarion University, financial need and the student's goals in biology. Application should be made in the spring to the Biology Department. Final selection is made by the department upon recommendation of the department's academic committee. Payment is made through the Kim Rutherford Scholarship Fund of the Foundation.

**Scholars in Education Award:** PHEAA (Pennsylvania Higher Education Assistance Agency) offers over 100 scholarships each year to students in math or science who are committed to teaching secondary math or science in a Pennsylvania school. Undergraduates must have a QPA of at least 3.0 in math or science. High school seniors must have SAT scores above 1000, a 3.0 average in math and science and rank in the top 1/5th of their high school class. Available only to Pennsylvania residents, this scholarship ranges in amount from \$1500 up to one-half of tuition at eligible schools (including Clarion University). Contact Dr. Ken Mechling, Biology Department, for further information. Application should be made prior to April 1. Payment is made by PHEAA each semester to the university as credit towards tuition and fees.

## Chemistry

**Heagy Memorial Scholarship:** This \$200 scholarship is awarded annually to a chemistry major of at least sophomore standing. The candidate is selected by the Chemistry Department on the basis of academic record. The scholarship is paid by the Foundation as a tuition credit. For more details, contact the Chemistry Department Chair.

**Western Pennsylvania Water Company Scholarship:** An \$800 tuition credit scholarship made available by the Western Pennsylvania Water Company through the Clarion University Foundation. The recipient must be a chemistry major of at least junior standing and is selected by the department on the basis of academic record. For further details, contact the Chemistry Department Chair.

## English

**Joseph F. and Susannah Centorcelli Scholarship:** This scholarship fund was established by Mr. Joseph F. Centorcelli in memory of his wife, through the Clarion University Foundation. Two recipients are selected each year, one in English and one in Speech/Communication/Theatre, to receive a \$350 scholarship. Applicants must be of at least sophomore standing and have a 3.0 QPA. English candidates must submit a narrative in which they discuss academic interests and future goals. Also, they will submit samples of current critical and creative writing. Application should be made in the spring semester to the Chair, English Department.

**Gilbert Neiman Scholarships:** These scholarships were established in memory of Dr. Gilbert Neiman, former professor of English at Clarion University. Two \$1,000 scholarships will be awarded annually, one to a second semester sophomore and one to a second semester junior. A \$500 scholarship will also be given to an incoming freshman. To be eligible, the students must be English, Liberal Arts or Secondary Education English majors. The sophomore and junior applicants should be in good academic standing and must submit a creative writing, expository essay or a critical essay on a literary selection specified by the English Department each year. In addition to submitting the above mentioned work, the freshman applicant must also submit a recommendation from his or her senior English teacher, and a high school transcript. Application should be made after the student has been accepted at Clarion.

## Geography/Earth Science

**Sabina Mooney Seifert Scholarship:** This is a \$700 annual scholarship for Geography/Earth Science majors of at least sophomore standing. The award criteria is based primarily on academic achievement and secondarily upon financial need. The recipient would be eligible to receive the scholarship in succeeding years based upon maintenance of a 3.00 quality point average in their major field of study. Contact the chair of the Geography/Earth Science Department for additional information.

## Mathematics

**Tom A. Carnahan and Mel A. Mitchell Secondary Education/Mathematics Scholarship:** This endowed scholarship was established to benefit Clarion students enrolled in the Secondary Education/Mathematics degree program. The award, in the amount of \$750 will be made to full-time students who have been admitted to the Teacher's Certification program and who have achieved a minimum 3.0 quality point average in completed math courses. The Office of the Dean of Education will be responsible for mailing applications to all eligible students. In addition to submitting an application, students are required to provide two letters of recommendation. Students would be eligible to apply for the scholarships for a second year.

## Modern Languages

**Rafael Diaz y Diaz Scholarship:** This cash award is presented annually to the most outstanding junior or senior who is majoring in Spanish and plans to study either in Spain and/or an Hispanic Country. It is based upon academic excellence and contribution to the Spanish section of the Modern Languages Department. Selection is made by the scholarship committee. For further details contact Dr. Tu or Mr. Diaz y Diaz.

## Music

**Band Scholarships:** Scholarships are available to students who participate in the Marching and Symphonic Bands. Criteria for selection are musicianship, instrumentation needs, academic promise, and leadership potential. Students are selected by the Conductor of Bands. The annual awards may be renewed subject to the availability of funds. The number and amount may vary each year. For additional information, contact Dr. Stanley Michalski, Conductor of Bands.

**Dr. John A. Mooney Scholarship:** This award is presented to a Music major of at least sophomore standing. Criteria for selection are based primarily upon academic achievement and secondarily upon financial need. Candidates will be required to demonstrate musical talent via a live audition. This \$700 scholarship will be applied to the recipient's educational fees. Contact the chair of the Music Department for additional information.

**String Scholarship:** Two \$500 awards made each year to full-time students majoring in music. Auditions are required and selection is based upon service to the department orchestra and string ensemble. For additional information, contact Dr. Lassowsky or Mr. Berberian of the Music Department.

**Linda Marie Trunzo Memorial Scholarship:** Application for this \$700 scholarship can be made each spring to the Music Department. The recipient, selected on the basis of academic achievement and interest and talent in music, will be named the "Trunzo Scholar." Entering freshman, as well as upperclass-

men are eligible to apply. Recipients who maintain a 3.0 quality point average are eligible to reapply in subsequent years.

## Physics

**Paul Shank Award for Excellence in Physics:** A \$500 award established to honor a former physics professor. The scholarship is awarded based on grades in physics, math and computer science. Award is presented to a junior physics major. In addition, the recipient's name is inscribed on a plaque in the department office. See the Physics Department Chair for further details.

## Psychology

**Eric S. Knotick Memorial Scholarship:** This \$300 scholarship is given annually to a psychology student based on academic accomplishment and service to the University, Psychology Department, and community. See the Psychology Department Chair for additional information.

## Speech Communication and Theatre

**Cheri Aharrah Reid Memorial Scholarship:** This endowed scholarship was established by Dr. & Mrs. Ernest Aharrah in memory of their daughter. Its purpose is to assist freshman students beginning study in the department of Speech Communication and Theatre. The recipient will be selected on the basis of demonstrated high school and or community activities deemed worthy of merit. The first award will be made during the summer of 1989 and will be in the amount of \$140. Additional information can be obtained from Dr. Mary Hardwick, Department of Speech Communication and Theatre.

**Joseph F. and Susannah Centorcelli Scholarship:** This scholarship fund was established by Mr. Joseph F. Centorcelli in memory of his wife, through the Clarion University Foundation. Two recipients are selected each year, one in English and one in Speech/Communication/Theatre, to receive a \$350 scholarship. Applicants must be of at least sophomore standing and have a 3.0 QPA. SCT candidates will be invited to appear for an interview and are required to demonstrate their awareness of citizenship responsibilities and hope for their career. Application should be made in the spring semester to the Chair, SCT Department.

## Math, Physics, Chemistry, Geography, Earth Science, Biology

**William & Elizabeth Hart Scholarship:** This scholarship was established to honor former chemistry professor, Dr. William Hart. Currently, two scholarships are awarded in the amount of current expenses for tuition, room, board, and some miscellaneous fees, including books. Applicants must major in mathematics, physics, chemistry, geography/earth science or biology and have completed 45 credits. They must have a QPA of 3.0 overall and 3.3 in math and science coursework. Selection shall be made by competitive examination, testing the student's ability in mathematics and English. Application deadline is late February. Contact a member of the scholarship committee for additional information. Dr. Wollaston (Chemistry); Dr. Leavy (Geography); Mr. Donachy (Biology); Dr. McGowan (Physics); and Dr. Freed (Mathematics).



## Biology, Chemistry, Earth Science

**Pennsylvania Mining Professionals Scholarship:** This \$500 award is sponsored by the Pennsylvania Mining Professionals, through the Clarion University Foundation, in support of a senior student majoring in Biology, Chemistry or Earth Science who is interested in some aspect of the coal industry. Prospective candidates must have a minimum QPA of 3.0. Selection is based upon financial need, participation in extra-curricular activities and completion of a statement of career goals. For additional information, contact a member of the scholarship committee: Dr. Ernissee (Geography); Dr. Sharpe (Chemistry); Dr. Aharrah (Biology); or Dr. Sessions (Dean, Continuing Education and Graduate Studies).

## *College of Business Administration*

**Charles P. Leach, Sr. Scholarship:** A cash award of \$500 awarded annually to an outstanding business student. Eligible students must be of at least sophomore standing and are selected on the basis of academic record, contribution to the College of Business and the university, and participation in extra-curricular activities such as professional organizations. Application is made to the chair of the College of Business Administration scholarship committee during the spring semester. Payment is made by the Foundation.

## Accountancy

**American Accounting Association—Arthur H. Carter Scholarship:** A \$2500 tuition credit scholarship presented by American Accounting Association. Junior accounting majors in the top of their class should make application during the spring semester through the department. Committee selection of the recipient is based on academic record, leadership qualities and participation in extra-curricular activities.

**American College Scholarship:** Outstanding accounting students are eligible to apply for this award of \$500, \$1000, or \$2000. Application should be made in the spring semester before March 1 to the Accountancy Department scholarship committee. Selection is based on academic excellence, creativity, motivation, and leadership. Letters of recommendation are required. Contact the Accountancy Department Chair for further information.

**National Association of Accountants Senior Scholarship:** A \$300 award made by the Board of Directors of the Northwest Keystone Chapter of the NAA to a senior accounting major. Students must maintain a 3.5 overall QPA as well as a 3.5 in accounting. Candidates should apply to the Accountancy Department Chair by May 1. Recipient is selected on the basis of scholastic achievement, involvement in extra-curricular activities and statement of goals.

**National Society of Public Accountants Scholarship:** A tuition credit scholarship awarded to a junior accounting major by the scholarship committee of the National Society of Public Accountants. Candidate must have a 2.0 QPA overall in addition to a 3.0 in accounting. Selection is based on qualities of academic excellence, participation in extra-curricular activities, leadership abilities and financial need. Candidates must also submit letters of recommendation. Application should be made to the Accountancy Department Chair in February.

**Pennsylvania Institute of Certified Public Accountants Scholarship:** Over 30 cash awards varying in amounts of \$100, \$700 and \$1400 are presented to junior accounting majors by the Pennsylvania Institute of Certified Public

Accountants. Application should be made before March 1 through the Accountancy Department. Eligible applicants must be full-time students and have completed 12 semester credits in accounting. Applicants are required to submit letters of recommendation. Selection is based upon scholastic achievement and qualities of leadership and is made by the trustees of the PICPA scholarship fund.

**American Accounting Association Fellowship Program in Accounting (Graduate Students):** A \$1000 fellowship for second year graduate students in business administration or accountancy sponsored by the American Accounting Association. Students should apply prior to February 1 to the Accountancy Department. Candidates must be interested in teaching accounting and must show promise for such a career. Payment is made as a tuition credit paid each semester.

**American Institute of Certified Public Accountants Scholarship for Minority Graduate Students in Business:** Scholarship(s) made each year to accounting student in need of financial assistance. A maximum of \$1000 per year will be awarded by the AICPA scholarship committee as a tuition credit. Application should be made to the Accountancy Department by July 1 for the academic year and December 1 for the spring semester. Applicant must be in good academic standing and must submit a statement signed by the University Financial Aid Officer.

## Finance

**Burns and Burns Scholarship:** This \$500 scholarship is available to students majoring in finance, real estate, and insurance. The award process is initiated by faculty nominations. Nominees are required to submit a resume and are evaluated on academic achievement, contributions to the department, the College of Business, Clarion University, and the local community.

**Entrepreneurial Scholarship:** A scholarship established to benefit a returning Finance major coupled with an assistantship (part-time employment) within the University's Entrepreneurial Center. Recipients are nominated by faculty of the Finance Department and selection is based upon academic excellence as well as contributions to the department. Value of the scholarship at the present time is \$250.

## *College of Communication and Computer Information Science*

### Communication

**Robert Barckhoff Memorial Scholarship:** This \$250 annual scholarship is sponsored by the Kappa Delta Rho Fraternity. To be eligible for the award the applicant must be of at least sophomore standing and have a 3.0 quality point average. In addition, the applicant must be actively involved with one of the university's radio stations. For further information contact the faculty advisor of Kappa Delta Rho.

**Dr. James Canelos Scholarship:** A \$750 scholarship offered to junior communication majors. Eligibility requires a minimum QPA of 3.4. Final selection is made by department members on the basis of academic record, contribution to the Communication Department and the university, participation in extra-curricular activities and financial need. Application should be made in the fall to the department chair. Payment is made by the Clarion University Foundation as a tuition credit.

## Computer Information Science

**Computer Information Science Scholarship:** A \$300 scholarship offered under the same conditions and procedures as the Foundation departmental scholarship and is awarded by the scholarship committee of the CIS Department. The purpose is to guarantee that students from both majors in the CIS Department (CS-Computer Science and CAIS Computer Application and Information Systems) are awarded a scholarship each year. For additional information, contact the CIS Department Chair.

**Data Processing Management Association Elizabeth Ross Scholarship:** Two \$100 scholarships awarded to DPMA members majoring in CAIS. Selection is based on academic record, and contribution to DPMA. Additional information can be obtained from the DPMA faculty advisor, Mrs. Elizabeth Ross.

**George R. Lewis Scholarship:** This scholarship award is made available to deserving students in computer science. This is a tuition based scholarship valued at a maximum of \$1000 at this time. Scholarships are renewable annually throughout four years providing that the student maintains QPA standards. Contact the Dean of the College of Communication and Computer Information Science for more information.

## *College of Education and Human Services*

### Education

**Clarion County Chapter of the PA Association of School Retirees Scholarship:** One \$200 scholarship awarded each year. Candidate must have graduated from a Clarion County High School or have been a resident of Clarion County at the time of high school graduation. Apply in the spring to the Education Department Chair. Selection is based on academic record, contribution to department and university, participation in extra-curricular activities and leadership skills. Letters of recommendation are required. Payment is made by the Foundation as a credit toward tuition.

**Congressional Teacher Scholarship:** Scholarships administered by PHEAA to encourage academically talented students to enter elementary or secondary teaching fields. Recipients are selected on the basis of academic achievement and the recommendation of a high school official. The \$5000 award is made based upon a signed agreement to teach in an elementary or secondary school for at least two years. Contact the Financial Aid Office for additional information.

### Elementary Education

**Parma Dixon Mooney Scholarship:** One \$350 scholarship awarded each year to a freshman or transfer student majoring in elementary education. Candidate must be a resident of Clarion County. Apply in the spring to Education Department Chair. Selection is based upon academic record, participation in extra-curricular activities and leadership skills. Letters of recommendation are required. Payment is made by the Foundation as a credit toward tuition.

### Secondary Education—English

**Gilbert Neiman Scholarships:** These scholarships were established in memory of Dr. Gilbert Neiman, former professor of English at Clarion University. Two \$1,000 scholarships will be awarded annually, one to a second semester

sophomore and one to a second semester junior. A \$500 scholarship will also be given to an incoming freshman. To be eligible, the students must be English, Liberal Arts or Secondary Education English majors. The sophomore and junior applicants should be in good academic standing and must submit a creative writing, expository essay *or* a critical essay on a literary selection specified by the English Department each year. In addition to submitting the above mentioned work, the freshman applicant must also submit a recommendation from his or her senior English teacher, and a high school transcript. Application should be made after the student has been accepted at Clarion.

## Secondary Education—Mathematics

**Tom A. Carnahan and Mel A. Mitchell Secondary Education/Mathematics Scholarship:** This endowed scholarship was established to benefit Clarion students enrolled in the Secondary Education/Mathematics degree program. The award, in the amount of \$750 will be made to full-time students who have been admitted to the Teacher's Certification program and who have achieved a minimum of 3.0 quality point average in completed math courses. The Office of the Dean of Education will be responsible for mailing applications to all eligible students. In addition to submitting an application, students are required to provide two letters of recommendation. Students would be eligible to apply for the scholarship for a second year.

## Secondary Education—Mathematics and Science

**Scholars in Education Award:** PHEAA (Pennsylvania Higher Education Assistance Agency) offers over 100 scholarships each year to students in math or science who are committed to teaching secondary math or science in a Pennsylvania school. Undergraduates must have a QPA of at least 3.0 in math or science. High school seniors must have SAT scores above 1000, a 3.0 average in math and science and rank in the top 1/5th of their high school class. Available only to Pennsylvania residents, this scholarship ranges in amount from \$1500 up to one-half of tuition at eligible schools. Contact Dr. Ken Mechling, Biology Department, for further information. Application should be made prior to April 1. Payment is made by PHEAA each semester to the university as credit towards tuition and fees.

## Special Education

**Ginny Thornburgh Recognition Scholarship:** One \$750 scholarship awarded each year to an outstanding junior or senior majoring in special education. Selection is based upon academic record (minimum QPA 3.5) and service to exceptional individuals. Contact the Special Education Department Chair.

## Speech Pathology and Audiology

**Marian Renn Marshall Graduate Fellowship (Graduate Students):** This award fund was established through the Clarion University Foundation in memory of Marian Renn Marshall. This award offers assistance to graduate students for participation in special projects. Eligible students must be successfully admitted to the SPA graduate program. Selection is made by the SPA Department on the basis of academic record and financial need. Contact the SPA Department Chair for further information.

## *College of Library Science*

**Eleanor DeWald Moore Scholarship:** This scholarship fund provided a \$250 award to an undergraduate student of junior or senior standing who is preparing for a career in school librarianship. Selection criteria include professional potential in librarianship based upon earned grades and a written statement of personal and professional goals. Contact the dean of the College of Library Science for information.

**H. W. Wilson Scholarship (Graduate Students):** Awards totaling \$3000 are made every five years to graduate students majoring in library science. Recipients are chosen on the basis of academic excellence and financial need. Selection is made by the departmental scholarship committee and payment is made by the H. W. Wilson Foundation. For further information, contact the Dean, College of Library Science.

## **Scholarships—Venango Campus**

### **General**

**Ronald E. Black Endowed Scholarship:** This scholarship fund provides a \$250 award to a student at the Venango Campus. Preference is given to adult students who are residents of Venango County. For further information contact the chair of the Venango Campus Scholarship Committee.

**GTE Scholarships:** Two \$450 scholarships awarded by GTE (General Telephone) through the Clarion University Foundation. Applicants must be a resident of the GTE service area (Oil City, Franklin, Titusville) who are enrolled at Venango Campus. Contact the chair of the Venango Campus Scholarship Committee for additional information.

**Oil City Adelphoi Club Scholarships:** Four-Six awards varying in amount (usually \$300) provided by the Adelphoi Club for Venango Campus students. The scholarship may be used for recruiting or for returning students. Candidates must be residents of Venango County. For further information, contact Venango Campus Scholarship Committee Chair, Administrative Office, Venango Campus.

**Oil City Lions Club Scholarship:** One \$500 scholarship awarded annually to a senior at Oil City or Venango Christian High School to attend Venango Campus. Contact the respective guidance office for additional information.

**Oil City Rotary Club Scholarship:** One \$500 scholarship awarded by the Oil City Rotary Club through the Clarion University Foundation. The recipient must be a graduate of either Oil City or Cranberry of Venango Christian High School. The recipient is selected on the basis of academic record, financial need and participation in extra-curricular activities. Contact the chair of the Venango Campus Scholarship Committee for additional information.

**Laura A. Smedley Scholarships:** Scholarships, not limited in number and not specified in amount, granted to Venango Campus students who are graduates of secondary schools serving Venango County. Eligible students must be full-time students enrolled in any associate degree program. Selection is made based upon financial need and academic record. Instructions for complete application process can be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301. Deadline for submission of application is April 15.

**Venango Campus Scholarship:** Five or more \$400 scholarships awarded annually from the Venango Campus fund of the Foundation. These scholarships are provided by current faculty contributions and by an endowment established by

the faculty at Venango Campus. In selecting the recipient, the scholarship committee considers academic record, participation in extra-curricular activities and financial need. For further information, contact the Administrative Office, Venango Campus.

**Frank and Clara Williams Scholarship:** Scholarships, not limited in number, and not specified in amount, granted to Venango County residents. Eligible students must be a full-time freshman or sophomore and be enrolled in a four-year degree program. Selection is made based upon financial need and academic record. Applications may be obtained from Mr. Stephen Kosak, Box 374, Oil City, PA 16301.

**Zonta Club Scholarship:** One \$300 award made available by the Zonta Club of Oil City-Franklin. The awardee must be a female student who resides in Venango County. Consideration is based upon the student's academic record, financial need, and participation in extra-curricular activities. Contact the chair of the Venango Campus Scholarship Committee for additional information.

## Nursing

**Beverly Enterprise Scholarship:** Four \$250 scholarships will be awarded to students currently enrolled in or accepted for the Associate of Science or the Bachelor of Science in Nursing programs. Criteria for selection include academic excellence, financial need and service to the community, university and the nursing profession. Contact the School of Nursing, Venango Campus, for further information.

**Oil City Area Health Center Women's Auxiliary Health Career Fund Scholarship:** Two \$500 scholarships contributed by the Health Career Fund to be awarded by the Venango Campus Scholarship Committee to Venango, Forest and Clarion County residents attending Venango Campus for educational purposes in the health career fields.

**Dolores Sherman Scholarship:** One \$500 annual award for full-time students pursuing a BS degree in nursing. Candidate selection criteria include grades in nursing coursework, overall academic record, financial need, recommendation of nursing instructors and service to the university and/or the nursing profession. Payment is made to the university as a tuition credit by the Foundation. Application should be made in the spring to the School of Nursing scholarship committee. Contact the School of Nursing, Venango Campus.

**Quaker State Scholarships:** Two \$650 awards given annually to students in nursing, by the Quaker State Oil Refining Corporation. Candidates must have successfully completed the first year of the nursing program. Eligibility criteria include nursing skills, scholastic achievement and financial need. Scholarships are paid to the University as a tuition credit. For additional information, contact the School of Nursing, Venango Campus.

## Awards

In addition to the many available scholarships, the University is also very proud of its academic achievement, leadership and service awards, such as:

### *College of Arts and Sciences*

#### **Biology**

Association of Pennsylvania State College and University Biologists Award

#### **Chemistry**

American Institute of Chemists Award

CRC Press-Freshman Achievement Award

Chemistry Department Competitive Award

Outstanding Senior Award

#### **English**

English Association of Pennsylvania State Universities Award

Max Nemmer Award

#### **Geography/Earth Science**

Tracy Buckwalter Geology Award

Norman Humphrey Geography/Earth Science Award

#### **History**

Gilbert Hill Award

#### **History/Social Science**

Frank Campbell Award

#### **Humanities**

Eileen M. Thornton Humanities Award

#### **Mathematics**

Mathematical Association of America Award

Pi Mu Epsilon Honorary Award

#### **Modern Languages**

Canadian Consul Award in French

Consul General's Award for Achievement in German

Award for Excellence in Russian

Award for Excellence in Spanish

#### **Psychology**

Psychology Department Awards

#### **Speech Communication and Theatre**

Alpha Psi Omega/Allan Kroh Memorial

Copeland Fellowship Award

Daniel Preuh's Memorial for Musical Comedy

Daniel Preuh's Memorial for Talent in Theatre

Silver Fox Award for Comedy

Mary Sterrett and Elbert R. Moses, Jr. Award

### *College of Business Administration*

#### **All Majors**

Phi Beta Alpha Outstanding Senior Award

Wall Street Journal Student Achievement Award

**Accountancy**

- Becker CPA Review Award
- National Association of Accountants Senior Award
- Pennsylvania Institute of Certified Public Accountants Senior Award

**Economics**

- Omicron Delta Epsilon Award for Distinguished Service
- Omicron Delta Epsilon Award of Honor for Academic Achievement and Leadership
- Omicron Delta Epsilon Award for Outstanding Achievement in Economics

**Marketing**

- Outstanding Marketing Student of the Year

***College of Communication and Computer Information Science*****Communication**

- Outstanding Communication Senior Award

**Computer Information Science**

- Data Processing Management Association Outstanding Student Award

***College of Education and Human Services*****Education**

- Kappa Delta Pi Award

**Speech Pathology and Audiology**

- National Student Speech, Language and Hearing Association Honor Award
- Speech Pathology and Audiology Honor Award

***University-Wide Awards*****Leadership**

- James Gemmell Leadership Award

**ROTC**

- Distinguished Military Student (DMS) Award
- George C. Marshall Super Cadet Award



# University Curricula

All undergraduate curricula, with the exception of the two-year Associate of Science curriculum in Nursing and Associate of Science Degrees, lead to a bachelor's degree and have a common area of 48 semester hours in general education. Students should select their general education programs carefully in consultation with their faculty advisors.

## General Education Distribution

### *Goals and Purposes*

A university education as conceived by the faculty at Clarion University of Pennsylvania consists of both professional and general education. Professional education is the specialized education and training which aims to prepare a student to earn a living in a particular vocation, profession, discipline, or area of study.

General education is an essential complement to professional education and aims to assist the student's general development as a person and as a citizen through what is generally a liberal arts curriculum. The general education program seeks to avoid the narrowness resulting from highly structured professional programs by assuring that all students have the opportunity to develop an understanding and appreciation of the intellectual, cultural, and moral forces which have shaped our world, and to provide the basic knowledge and skills that will allow them to enjoy a fuller life.

The breadth of the general education concept requires a broad, coordinated program for its implementation. Students should be free to select, in consultation with their academic advisors, a general education program which meets their personal needs in attaining the general education goals. Students should recognize that certain courses may be more complementary to given professional programs than others. The sum of the general education program selected should be directed toward the student's understanding and appreciation of, and ability to respond articulately to, the following general education areas and area goals:

- I. Modes of communication: To develop the academic knowledge and ability to communicate personal ideas and philosophy.
- II. The Natural World in Scientific Perspective: To show the use of and to provide an appreciation of the scientific method for inquiry and measurement so that the student may impart scientific facts and principles pertaining to the physical and biological world.
- III. The Human World in Scientific Perspective: To provide a broad understanding of man's social institutions, enabling the student to make intelligent decisions and develop programs in matters of social policy.
- IV. Interpreting Human Existence: To expand the student's understanding and appreciation of the arts; to aid the student in developing a perspective on the past; and to help the student formulate a satisfying personal philosophy.
- V. Personal Development and Life Skills: To learn and develop those personal activities and life skills that will lead to a full and self-satisfying life.

## *Credit Hour Distribution*

The distribution below became applicable on August 25, 1975. Students enrolled before that date should follow the general education distribution in effect at the time of their admission, unless changing to the present structure will expedite their degree work.

The minimum credit hour requirement in general education is 48 semester hours distributed, in most programs, as follows:

- I. Modes of Communication .....(minimum) 12 s.h.  
     English Composition<sup>1</sup> ..... 3-6 s.h.  
     Courses to be selected from two of the following:  
         Computer Information Science, Elementary Foreign Language<sup>2</sup>, Logic,  
         Mathematics<sup>3</sup>, Speech Communication<sup>4</sup> ..... 6-9 s.h.
- II. Natural Sciences and Mathematics .....(minimum) 9 s.h.  
     Courses to be chosen from at least two of the following fields:  
         Biology, Chemistry, Earth Science, Mathematics<sup>3</sup>, Physical Science,  
         Physics
- III. Social Sciences .....(minimum) 9 s.h.  
     Courses to be selected from at least two of the following fields:  
         Anthropology, Economics, Geography, History, Political Science,  
         Psychology, Sociology
- IV. Humanities<sup>5</sup> .....(minimum) 9 s.h.  
     Courses to be selected from at least two of the following fields:  
         Art, English, Intermediate Foreign Language, Literature, Music,  
         Philosophy, Speech Communication, Theatre
- V. Personal Development and Life Skills .....(minimum) 9 s.h.  
     Health ..... 2 s.h.  
     Physical Education Activity Courses ..... 2 s.h.  
     (Maximum of 2 credits in physical education activity courses may be  
     counted toward graduation.)  
     Courses chosen from General Studies or other disciplinary areas or  
     approved student activities for credit .....(minimum) 5 s.h.

<sup>1</sup>Unless exempted, all students are required to take ENG 111 and earn a minimum grade of "C." Students may enroll in ENG 105 only if they are assigned to that course. Additional composition courses are restricted to the following: ENG 105, 200, 201, 202, 203, 204, 206; COMM 171, 200, 250, but only students required to do so may take ENG 105.

<sup>2</sup>May not be used to meet foreign language requirement for the B.A. degree.

<sup>3</sup>Credit cannot be granted for MATH 100 if it is taken after successful completion of, or concurrently with, any other course in mathematics.

<sup>4</sup>Selection is limited to the following courses: SCT 113, 115, 155, 213, 214, 251, 256, 264.

<sup>5</sup>ENG 105, 111, 201, 206, 253, and SCT 113 may *not* be used to meet the humanities requirement.

## College of Arts and Sciences

**James J. Scanlon, Ph.D., Dean**

Office: 204 Founders Hall

Telephone: 226-2225

### Degree Listing

Anthropology (B.A.)	Medical Technology (B.S.)
Art (B.F.A.)	Music Marketing (B.M.)
Biology (B.A., B.S.)	Music Performance (B.M.)
Chemistry (B.A., B.S.)	Natural Sciences (B.A.)
Chemistry/Business*	Philosophy (B.A.)
Chemistry/Pre-MBA*	Physics (B.A., B.S.)
Chemistry/Polymer Science*	Political Science (B.A.)
Earth Science (B.A., B.S.)	Psychology (B.A., B.S.)
Earth Science/Geology*	Russian (B.A.)
Economics (B.A.)	Social Sciences (B.A.)
Engineering Coop. Programs	Sociology (B.A.)
Engineering/Chemistry*	Sociology/Psychology (B.A.)
Engineering/Mathematics*	Spanish (B.A.)
Engineering/Physics*	Speech Communication (B.A.)
English (B.A.)	Speech Communication &
French (B.A.)	Theatre (B.A., B.S.)
General Studies (B.S.)	Theatre (B.F.A.)
Geography (B.A., B.S.)	Theatre/Acting*
German (B.A.)	Theatre/Design-Technical
History (B.A.)	Director*
Humanities (B.A.)	
Mathematics (B.A., B.S.)	Arts & Sciences (A.A.)
Mathematics/Actuarial Science*	(See Venango Campus)
Mathematics/Applied*	*Academic Concentrations
Mathematics/Computer Science*	

The College of Arts and Sciences offers a wide variety of programs in the arts, the humanities, the social and behavioral sciences, the natural sciences, and mathematics.

In the arts, the College offers:

- the B.F.A. degree with majors in art and theatre;
- the B.M. degree with majors in music performance and music marketing;
- the B.A. degree with a major in speech communication and theatre;
- the B.S. in speech communication and theatre.

In the humanities, the following programs are available:

- the B.A. degree with majors in English, French, German, philosophy, Russian, Spanish, and speech communication as well as a general major in the humanities.

In the social and behavioral sciences, students may select:

- the B.A. degree with majors in anthropology, economics, geography, history, political science, psychology, sociology, and sociology/psychology, as well as a general major in the social sciences;
- the B.S. degree with majors in geography and psychology.

In the natural sciences, options include:

the B.A. degree with majors in biology, chemistry, earth science, and physics, as well as a general major in the natural sciences;

the B.S. degree with majors in biology, chemistry, chemistry/engineering, chemistry/business, earth science, medical technology, physics, and physics/engineering.

In mathematics, the College of Arts and Sciences provides several programs:

the B.A. degree with a major in mathematics;

the B.S. degree with majors in mathematics, (with options in applied mathematics, mathematics/computer science, and mathematics/actuarial science) and mathematics/engineering.

The College of Arts and Sciences offers pre-professional advisement programs in the fields of business (pre-MBA), engineering, law, medicine, dentistry, pharmacy, and theology. The College cooperates in its engineering program with the Schools of Engineering at the University of Pittsburgh and Case-Western Reserve University in Cleveland.

The College of Arts and Sciences also cooperates with the College of Library Science and the College of Education and Human Services to provide certification programs in library science and in secondary education, which may be earned concurrently with a B.A. or B.S. degree.

Finally, the College offers an interdepartmental Language and Area Studies Program.

The specific requirements of each of these programs are listed in the pages that follow. Additional information may be obtained from the dean, department chair or other individual in charge. All B.A. programs require second year proficiency in a foreign language.

## Teacher Certification

Liberal Arts students can gain teacher certification in secondary education by taking required education courses as free electives in a B.A. or B.S. program. Details are available in the office of the Dean of the College of Education and Human Services.

## Anthropology, Philosophy, Political Science, and Sociology

**Department of APPS, Robert A. Rath, Ph.D., Chair**

**Professors:** Konitzky, Straffin, Takei, Tu; **Associate Professors:** Girvan, Graybill, Rath, Somers, VanBruggen; **Assistant Professor:** Rumsey

**ANTHROPOLOGY, B.A.**

51 credits

Required: ANTH 211, 213, 362, and 21 additional credits in anthropology chosen in consultation with a departmental advisor. In addition to 30 credits in anthropology, the following courses are required: HIST 111, 112, 120, PS 210, 211, PSY 211 and SOC 211.

**PHILOSOPHY, B.A.**

42 credits

Required: PHIL 111, 212, 255, 256, and 15 credits of philosophy electives chosen in consultation with a departmental advisor, with PHIL 352 and 353 recommended. In addition to these 27 credits of philosophy, 15 credits from among the following fields are required: art, English, foreign language, music, speech, and theatre.

**POLITICAL SCIENCE, B.A.**

51 credits

Required: PS 210 211, 353, 365, or 366 and 18 credits of political science electives. In addition to these 30 credits in political science, the following courses are required: ECON 211, 212; SOC 211, 300; and 9 credits from history, anthropology, or psychology.

**SOCIOLOGY, B.A.**

52 credits

Required: SOC 211, 300, 310, and 27 additional credits in sociology chosen in consultation with a departmental advisor. In addition, the following courses are required: PSY 211, 230, PS 211, SW 311 and either ECON 211 or 212.

## Art

**Department of Art, Eugene A. Seelye, M.A., Chair**

**Associate Professors:** Edwards, Grosch, Joslyn, P-Jobb, Seelye; **Assistant Professor:** Dugan

**ART, B.F.A.**

72 credits

Required: ART 121, 222, 125, 126; 12 credits in art history; 15 credits in art foundation courses; 18 credits in an art concentration; 15 credits in art electives; and the Senior Show.

## Biology

**Department of Biology, Kenneth R. Mechling, Ph.D., Chair**

**Professors:** Dalby, N. Donachy, Kodrich, Mechling, J.R. Moore, Morrow, Twiest, Williams; **Associate Professors:** Barnes, Belzer, J. Donachy, McPherson; **Assistant Professors:** Eggleton, Jetkiewicz, Ritter, Zielinski

**BIOLOGY, B.A.**

53 credits

Required: BIOL 153, 154, 201, 202, 203 and 12 credits from approved biology electives. In addition to these 29 credits in biology, the following courses are required: MATH 171; CHEM 153, 163, 154, 164, 254, 264; PH 251 and 252. CHEM 453/463 and GEOG 115 are acceptable electives.

**BIOLOGY, B.S.**

64 credits

Required: BIOL 153, 154, 201, 202, 203, and 12 credits from approved biology electives. In addition to these 29 credits in biology, the following courses are required: MATH 171; CHEM 153, 163, 154, 164, 254, 264; PH 251, 252; also 11 credits from the following fields: biology, chemistry, computer science, mathematics, physics. In some instances the student may be advised to substitute CHEM 151, 161, 152, 162, and CHEM 251, 252 for CHEM 153, 163, 154, 164, and CHEM 254, 264. This is particularly true if the student plans to take additional chemistry beyond the minimum requirements. CHEM 453, 463 and GEOG 115 are acceptable electives.

The Biology Department also offers a program in Secondary Education (see page 119), a library science track with the B.A. in Biology and a pre-professional program in business within the B.S. in Biology.

**MEDICAL TECHNOLOGY, B.S.**

78 credits

The Medical Technology program includes an academic preparation of three years (96 semester hours including general education) at Clarion and a twelve-month course of clinical study in a hospital-based school of Medical Technology accredited by the Committee on Allied Health Education and Accreditation (32 semester hours). Upon successful completion of two years of prescribed courses at Clarion, the student is eligible to apply for admission to the hospital school. Although application is made through the office of the Coordinator of Medical Technology at Clarion, acceptance is at the discretion of the staff of the clinical school. Clinical school spaces are limited, standards for admission are high, and admission to the Medical Technology Program at Clarion does not guarantee admission to the clinical school year. Clarion University maintains affiliations with eight clinical schools, and students may apply to accredited, non-affiliated schools, also. After graduation from Clarion University the student is eligible to take any of several licensing examinations. Successful completion of the exam permits practice of the profession in all states in the United States. Further information on the exams can be obtained from the Coordinator of Medical Technology.

The following courses are required during the three years at Clarion: BIOL 153, 154, 341, 444; CHEM 153, 163, 154, 164, 254, 264, 351, 361; either BIOL 203 or CHEM 453; PH 251, 252; and a math course by advisement. Substitutions for the above courses must be approved in writing by the Coordinator of Medical Technology. Students in the program must maintain the following grade point averages: first semester freshmen, 2.0; second semester freshmen and first semester sophomores, 2.5; thereafter 2.5 with a 2.5 in the natural sciences. Exceptions to these requirements must be approved by the Coordinator of Medical Technology. Specific information about courses, standards, and requirements established by the affiliate hospital schools are provided to enrolled students by the Coordinator of Medical Technology. Students wishing to transfer into the program must be approved by the Coordinator of Medical Technology and must plan to spend two years on the Clarion campus. Hospital affiliates are The Altoona Hospital, Altoona, PA; The Benedum School of Medical Technology, Western Pennsylvania Hospital, Pittsburgh, PA; Conamaugh Valley Memorial Hospital, Johnstown, PA; Divine Providence Hospital, Williamsport, PA; Harrisburg Hospital, Harrisburg, PA; Saint Vincent Health Center, Erie, PA.

**Chemistry****Department of Chemistry, William N. Brent, Ph.D., Chair**

**Professors:** Beck, Brent, Krugh, Laswick, McElhattan, Sharpe; **Associate Professors:** Bering, Wollaston

**CHEMISTRY, B.A.**

64 credits

Required: CHEM 151, 161, 152, 162, 251, 261, 252, 257, 262, 270, 352, 354, 355, 356, 357, 456, 461, and 470. In addition to these 44 credits of chemistry, the following courses are required: MATH 270, 271, 272; PH 251 or 258, and 252 or 259.

Graduates who have met these requirements and one advanced chemistry course will be certified as having completed an approved program as determined by the Committee on Professional Training of the American Chemical Society. German is the recommended foreign language.

CHEMISTRY, B.S. 76 credits

Required: CHEM 151, 161, 152, 162, 251, 261, 252, 257, 262, 270, 352, 354, 355, 356, 357, 456, 461, and 470. In addition to these 44 credits of chemistry, the following courses are required: MATH 270, 271, 272; PH 251 or 258, and 252 or 259 plus 12 credits of approved science/math electives.

Graduates who have met these requirements and one advanced chemistry course will be certified as having completed an approved program as determined by the Committee on Professional Training of the American Chemical Society.

CHEMISTRY major with BUSINESS minor 74 credits

Required: CHEM 151, 161, 152, 162, 251, 261, 252, 257, 262, 270, and 8 credits of chemistry electives numbered 300 or above; ACTG 251; MKTG 360; MGMT 320; CIS 110; ECON 221; MATH 232 or MATH 456; and 9 credits chosen from ACTG 252, 350, 353; FIN 370, 471; MKTG 361, 460, 461, 465; MGMT 321, 324, 420, 421, 425; ECON 310, 340, 351, 361.

The Chemistry Department also offers a program in secondary education; see page 119.

### **Five-Year Curricular Sequence, B.S. in Chemistry and the M.B.A.**

The Department of Chemistry of the College of Arts and Sciences and the College of Business Administration offer a five-year curricular sequence leading to a B.S. in Chemistry and the M.B.A. degree. Students electing this sequence must meet the entrance requirements of the graduate business program. The undergraduate portion of the program has the following components.

#### **B.S. IN CHEMISTRY**

I. General Education	48 credits
II. Requirements in the Major	76 credits
1. Required courses in Chemistry (44 credits)	
2. Required supplemental courses (20 credits)	
3. Additional required courses (12 credits)	
III. Free electives-Business courses	12 credits
TOTAL	134 credits

An undergraduate student in this Chemistry MBA curricular sequence is required to show competency or course equivalents in:

1. Finite mathematics, statistical processes, and quantitative methods
2. Economic theory
3. Financial and managerial accounting
4. Financial management
5. Marketing, distribution, and production
6. Management organization, policy, human behavior, and interpersonal communication
7. Legal and social environment
8. Information systems

These competencies can be met by the normal course sequence of a chemistry major with proper advisement with certain specialized courses being taken as free electives. The graduate portion of the program has the following components:

#### MASTER OF BUSINESS ADMINISTRATION

ACTG	552: Management Accounting	3 credits
ECON	510: Advanced Managerial Economics	3 credits
FIN	675: Advanced Financial Management	3 credits
MGMT	521: Organization Structure & Behavior	3 credits
BSAD	690: Business Policy	3 credits
MGMT	626: Production Management	3 credits
MKTG	560: Marketing Decision Making	3 credits
ECON	603: Quantitative Analysis	3 credits
Electives approved by graduate advisor		9 credits
Total		33 credits

### Cooperative Engineering Program

**Coordinator:** Albert R. Exton, Ph.D.

**Committee members:** Professors: Exton, Beck, Gendler

Clarion University has cooperative engineering agreements with the School of Engineering at the University of Pittsburgh and with the Case Institute of Technology of Case-Western Reserve University. Students in this program attend Clarion for three years and one of the engineering schools for two years earning a B.S. degree in physics, chemistry, or mathematics from Clarion and an engineering degree from the engineering school. Students with a cumulative grade point average of 3.0 are virtually guaranteed admission to the engineering school. Students with a cumulative grade point average between 2.75 and 3.0 are considered for admission to the engineering school.

### Earth Science

EARTH SCIENCE, B.A. and B.S. See Department of Geography and Earth Science.

### Economics

Instruction for this program is provided by the Department of Economics in the College of Business Administration, but the program is administered in the office of the dean of the College of Arts and Sciences.

ECONOMICS, B.A. 51 credits

Required: ECON 211, 212, 221, 222, 310, 311, 490 and 12 credits of 300 and 400 level Economics courses chosen in consultation with a department advisor. In addition to these 33 credits, the following are required:

- HIST 216, PS 210, PS 211
- One course from HIST 120, 121, 215
- One course from ANTH 211, SOC 211, PSY 211
- One computer science course (3 cr. hrs.) except CIS 110
- Math competency on the level of MATH 232 or 270 is required but may be met in the general education requirements.



## Engineering

See Cooperative Engineering Program, page 72, and Preprofessional Studies in Engineering, page 82.

## English

**Department of English, James H. Knickerbocker, Ph.D., Chair**

**Professors:** Caesar, Dennis, Greco, Grejda, Knickerbocker, Sheraw, Shumaker;  
**Associate Professors:** Brand, Cummings, Fink, Newman, Osterholm,  
Reinhardt, Wilson; **Assistant Professors:** Bisher, Campbell, Green, Jablon;  
**Instructor:** MacBeth

ENGLISH, B.A. 48 credits

Required: ENG 200, 221, 222, 225, 226; 252 or 253; 457 or 458; one American literature course; one course in English literature before 1800; one course in English literature after 1800; ENG 499. In addition to these 33 credits, 15 hours of English electives must be taken in either A) OR B). A) Writing concentration--Five courses from among 201, 206, 306, 202, 203, or 204; B) Five courses of which three must be on the 300-400 level.

The English Department also offers a program in secondary education; see page 122.

## French

FRENCH, B.A. See Department of Modern Languages and Cultures.

## General Studies

Administered by the College of Arts and Sciences, the B.S. in General Studies is a separate program designed to provide for students who have not decided upon a specific school or major and may, therefore, benefit from enrolling in a structured program through which they can explore a number of disciplines. The program is also intended for students who wish to develop a highly individualized program and follow it through to graduation because their interests are not accommodated by the established curricula and majors. However, it is not necessary for students who enter the university undecided about a major to continue in General Studies through graduation. Many students who come to the university and enter this program will develop interests that will lead them to declare a specific major.

## General Requirements

Admission requirements for the B.S. in General Studies are the same as those for admission to the university.

The degree is based upon the standard eight-semester sequence of courses and requires a minimum of 128 semester hours of credit for graduation.

A candidate for the B.S. in General Studies may not declare a specific major field. Students who decide upon a major field may not remain in the program but must transfer to the college and department offering a program encompassing the major.

Students may transfer from other areas into the General Studies program, but those who wish to transfer in must have at least two semesters of full time study remaining prior to graduation.

Academic standards for good standing in the program are the same as the university standards for good standing.

To earn the B.S. in General Studies the student must have a minimum cumulative quality point average of 2.00 for all course work.

## Specific Requirements

General education is as required by the university (48 s.h.).

A sufficient number of Arts and Sciences courses in addition to general education courses is required for the program (51 s.h.).

Maximum course work in a single discipline (in addition to general education above) is limited (39 s.h.).

A sufficient number of upper division courses, normally at the 300 level or above, are required for the program (39 s.h.).

All courses must be selected in consultation with an advisor.

## Geography & Earth Science

**Department of Geography & Earth Science, George S. Shirey, Ph.D., Chair**

**Professors:** Leavy, G. Shirey; **Associate Professors:** Ernissee, Zamzow; **Assistant Professors:** Howes, McKay, Vento

**EARTH SCIENCE, B.A.** 49 credits

Required: ES 150, 200, 250, 255, 280; GEOG/ES 225, 385; GEOG 125; and 6 credits from approved earth science/geography electives. In addition to these 30 credits of earth science/geography, the following are required: MATH 171, 232, and 12 credits from the following fields: biology, chemistry, mathematics, and physics.

**EARTH SCIENCE, B.S.** 45 credits

Required: ES 150, 200, 270, 280; and 21 credits from among the following earth science/geography electives, ES 201, 250, 255, 260, 330, 350, 355, 360, 370, 375, 380; GEOG/ES 225, 345, 385, 400, 425, 450; GEOG 125; SCED 485. In addition to these 33 credits of earth science/geography, 12 credits from among the following courses are required: BIOL 153, 154; CHEM 153, 154, 163, 164; MATH 171, 221, 232, 270 and PH 251, 152.

**GEOLOGY, B.S.** 64 credits

Required: ES 150, 250, 270, 350, 355, 360, 370, 375; GEOG/ES 225, 400; 15 additional hours must be elected from the following courses, ES 255, 260, 280, 300; GEOG/ES 125, 345, 450; BIOL 111; CHEM 351 or Field Camp.\* In addition to these 45 credits, the following courses are required: CHEM 153, 154; PH 251, 252; MATH 232.

\*In cooperation with another college or university.

**GEOGRAPHY, B.A.** 57 credits

Required: ES 111; GEOG 100, 125, 250, 257, 260, 275, and 9 credits from among the following: GEOG 115, 255, 258, 300, 350, 385, 400, and 450. In addition to these 30 credits of geography, the following courses are required:

ECON 211, 212; HIST 111, 112, 213; PS 210, 211; ANTH, PSY, or SOC 211 and one additional course in anthropology, psychology, or sociology.

**GEOGRAPHY, B.S.** 42 credits  
Required: ES 111; GEOG 100, 260; GEOG/ES 225, (400 or 425); and 15 credits from among the following geography/earth science electives, GEOG 125, 250, 257, 258, 265; GEOG/ES 325, 345, 385, 425, 450; ES 150, 255. In addition to these 30 credits in geography/earth science 12 credits from the following fields are required: anthropology, economics, history, political science, psychology, sociology, computer science and mathematics with CIS 110, 151 and MATH 221 recommended.

The Geography and Earth Science Department also offers a program in secondary education; see page 121.

## German

**GERMAN, B.A.** See Department of Modern Languages and Cultures.

## History

**Department of History, Steven Piott, Ph.D., Chair**

**Professors:** Day, Duffy, Khan, VanMeter; **Assistant Professors:** Abate, Crawford, Dunn, Piott, Simba, Westerkamp

**HISTORY, B.A.** 36 credits  
Required: U.S. History—9 credits; European History—6 credits; History of other geographical areas—6 credits; and 12 credits of history electives. HIST 410 and 420 are required.

## Humanities

The interdisciplinary Humanities Program is administered in the office of the dean.

**HUMANITIES, B.A.** 54 credits  
54 credits are required from among the following fields: art, English (not including 110 or 111), foreign language (beyond the first year), music, philosophy, speech communication and theatre. Each of the fields must be represented by at least one course and a sufficient number of courses at the 300 or 400 levels must be elected to promote a scholarly interest in at least one field.

## Language and Area Studies Program

The Language and Area Studies Program is jointly offered by the Departments of Modern Languages and Cultures, Economics, History, and Anthropology, Philosophy, Political Science, and Sociology. It is not a degree program but a combination of courses that accompanies a major in any one of the participating departments, completion of the program is noted on the student's official record. The requirements are as follows: proficiency in a foreign language at the second-year level; 24 credits (not including first and second year language) in the following departments with each department represented: Modern Languages and Cultures, Economics, Geography, History, Anthropology, Philosophy, Political Science, and Sociology.

## Library Science

The liberal arts curriculum at Clarion University does not include a program in library science but liberal arts students, regardless of their major may, by taking four courses in library science: LS 257, 258, 260, 357, qualify as provisional librarians under the Pennsylvania Public Library Code. Additional credits may be elected in consultation with the Dean of the College of Library Science.

## Mathematics

**Department of Mathematics, Benjamin M. Freed, Ph.D., Chair**

**Professors:** Bezak, Cronin, Gendler, Mitchell, Singh; **Associate Professors:** Bhattacharya, Engle, Freed, Henry, Kopas, Linnan, Lowe, Ringland, Rock, Wimer; **Assistant Professors:** Marchand, Northey

MATHEMATICS, B.A. 40 credits

Required: MATH 270, 271, 272, 300, 451, 452, 471, 472, Seminar and 12 credits of mathematics electives in courses numbered 300 or above.

MATHEMATICS, B.S. (Applied Mathematics Concentration) 46 credits

Required: MATH 270, 271, 272, 300, Seminar and 24 credits in mathematics electives from courses numbered 300 and above. In addition to these 40 credits of mathematics, two second-level courses containing applications of mathematics from a list approved by the Mathematics Department are required. Proficiency in computer programming must also be demonstrated, either by course work or by examination.

MATHEMATICS, B.S. (Computer Science Concentration) 58 credits

Required: MATH 270, 271, 272, 300, 451, 452, 360, 370, Seminar and 12 credits in mathematics electives numbered 300 or above. In addition to these 40 credits of mathematics, the following courses are required: CIS 163, 164, 240, 253, 254, and one computer science elective numbered 300 or above.

MATHEMATICS, B.S. (Actuarial Science Concentration) 58 credits

Required: MATH 270, 271, 272, 300, 350, 360, 370, 455, 456, Seminar and 9 credits in mathematics electives. In addition to these 40 credits in mathematics, the following courses are required: ECON 211, 212; ACTG 251, 252, FIN 373, and an elective in insurance. Proficiency in computer programming must also be demonstrated, either by course work or by examination.

MATHEMATICS (Cooperative Engineering Program) 68 credits

Required: MATH 270, 271, 272, 300, 350, 370, and 18 credits in mathematics or approved engineering electives. In addition to these 39 credits, the following courses are required: PH 258, 268, 259, 269, 350, 351; CHEM 151, 161, 152, 162; CIS 151. See also the Cooperative Engineering Program description on page 72.

A program in secondary education with a major in Mathematics is described on page 124.

## Modern Languages and Cultures

**Department of Modern Languages and Cultures, Erika Kluesener, Ph.D., Chair**

**Associate Professors:** Fortis, Lehnardt, Nikoulin; **Assistant Professors:** Diaz, Kluesener, Spina

**FRENCH, B.A.** 42 credits  
Required: FR 251, 252 (or 250\*), 255, 256, 260, 265, 351, 354 and 6 additional credits from courses numbered above 252. In addition to these 30 credits of French, ENG 252; and 9 additional credits in French, geography, and history, and/or ENG 457 and 458, and/or other courses by advisement are required.

**GERMAN, B.A.** 42 credits  
Required: GER 251, 252 (or 250\*), 255, 256, 351, and 15 additional credits from courses numbered above 252. In addition to these 30 credits of German, ENG 252 and 9 additional credits in German, geography, and history and/or ENG 457 and 458, and/or other courses by advisement are required.

**RUSSIAN, B.A.** 42 credits  
Required: RUSS 251, 252, 255, 256, 265, 351, 352, 354, 355, 451, and 15 additional credits from courses numbered above 252. In addition to these 30 credits of Russian, ENG 252 and 9 additional credits in Russian and/or geography, history, English are required.

**SPANISH, B.A.** 42 credits  
Required: SPAN 251, 252 (or 250\*), 255, 256, 265, 351, 352, 360, and 6 additional credits from courses numbered above 252. In addition to these 30 credits of Spanish, ENG 252 and 9 additional credits in Iberian and/or Latin American geography and history, and/or ENG 457 and 458 and/or other courses by advisement are required.

*\*As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may only receive three (3) credits for them, i.e., the three (3) credits they would normally receive for a 152 or 252 course.*

The Department of Modern Languages and Cultures also offers several programs in secondary education; see pages 122, 124, 126, and 127.

See statement on Study Abroad—International Education, page 23.

## Music

**Department of Music, Donald F. Black, Ph.D., Chair**

**Professors:** Farnham, Michalski, Mitchell; **Associate Professors:** Berberian, Black, Hall, Lazich, McLean, Urrico; **Assistant Professors:** Amrod, Lassowsky, Wells

### *Bachelor of Music in Performance*

The primary emphasis of the Bachelor of Music degree in Performance is on the development of the skills, concepts, and sensitivity essential to the professional life of a performing musician.

As a performer, composer, scholar, or teacher the professional musician must exhibit technical competence, a broad knowledge of music and music literature, sensitivity to musical style, and insight regarding the role of music in the life of human beings. Evidence of these musical aspects and their continuing development is the objective of the Bachelor of Music degree program.

## **Program Requirements**

### **GENERAL EDUCATION**

The general education distribution for all students in the college is presented on pages 65-66.

### **SUPPORTING STUDIES IN MUSIC**

69-71 credits

Required: 32 credits of applied music, MUS 135, 136, 235, 236, 151, 152, 251, 252, 300:01, 365 or 366, techniques and/or pedagogy, music literature and senior recital requirements are applicable to each performance area, and secondary piano and voice requirements. In addition, participation in a performing organization is required for a minimum of eight semesters.

### **PIANO COMPETENCY TEST**

All majors in music performance must pass the Piano Competency Test by the end of the sophomore year.

### **JURY EXAMINATIONS**

A jury examination in the major applied area is required of each music performance major at the end of every semester. The jury examination at the end of the sophomore year is the Upper Division Jury, which may determine the student's retention in the Music Performance program. Therefore, it requires a substantial presentation of repertoire and technique. The successful performance of the Upper Division Jury may serve as a permission for an optional junior recital provided that the prepared repertoire reflects the potential recital program.

### **JUNIOR RECITAL OPTION (MUS 300:02)**

A student may perform a solo recital during the junior year upon the permission of the applied teacher and upon passing the requisite audition (see Upper Division Jury above).

### **SENIOR DEGREE RECITAL (MUS 300:03)**

A full-length degree recital is required of every music performance major during the senior year. In order to qualify for this recital, the student must pass an audition at the end of the junior year (the program committee may consider a successful junior recital in place of the audition). The recital must include representative literature for the medium from contrasting style periods.

### **SENIOR DEGREE RECITAL PAPER**

All majors in music performance must prepare a paper pertaining to the compositions presented at the senior degree recital. The paper must contain historical, stylistic, and analytical information about the works in the program, and must be successfully completed during the semester in which the senior degree recital takes place. Specific guidelines for the preparation, review and completion of the senior degree recital paper are provided by the program committee.

### **APPLIED CREDIT**

All matriculated music majors must elect applied music credits on instrument/voice in residence. For more information see Music Department Chair.

## PARTICIPATION AND ATTENDANCE IN BI-WEEKLY STUDENT RECITAL SERIES

All students in the department must attend the bi-weekly student recital series presented in the department. Every major in music performance is required to perform at least once a semester at these recitals. Additional performances are encouraged at the discretion of the student and the applied teacher.

## SOLO APPEARANCES WITH PERFORMING ORGANIZATIONS

A solo appearance with the appropriate performance organization is recommended in the junior and senior year; a freshman or a sophomore may give a similar solo performance upon the permission and recommendation of the applied teacher and the director of the pertinent organization.

## RETENTION STANDARDS

All majors in Music Performance must maintain the following standards in order to remain in the program:

- A semester average of at least 2.00 quality points in all General Education studies.
- A semester average of at least 2.50 quality points in all supporting studies in music, and no grade lower than "C" in this category.
- No more than two semesters with a grade of "C" or lower in the eight semesters of applied area of performance required for graduation (MUS 264-273).

## ***Bachelor of Music Marketing***

70-71 credits

The Bachelor of Music degree in Music Marketing is an interdisciplinary major between the College of Arts and Sciences and the College of Business Administration. The program provides thorough training and a variety of experiences in music, business and management. Graduates from Clarion University of Pennsylvania with a B.M. in Music Marketing will be able to function competently and compete successfully in the rapidly expanding and diverse music industry (music retailing, management, sales, manufacturing, publishing and private teaching).

The curriculum includes required studies in music, business, and general education and offers the student opportunities for free electives and for an internship in the music industry. Professional preparation in the curriculum is dependent upon mastery of subject matter in the areas of music, business, general education and elective areas combined with field experience in the industry.

## **Program Requirements**

### GENERAL EDUCATION

The general education distribution for all students in the college is presented on pages 65-66.

### REQUIREMENTS IN MAJOR

Required: MUS 135, 136, 235, 236, 300:01, 151, 152, 251, 252, 274, 367, 7 credits of applied music (8 without optional internship), 4 credits from MUS 280-286, secondary piano and voice requirements, participation in a performing organization is required each semester the student is on campus. ACTG 151, MGMT 320, ECON 211 and 212, MKTG 360, 362, 363, 460 or 468. Internship optional.

### ATTENDANCE AT RECITALS

Students pursuing degree programs are required to elect MUS 300-Section 01 and to attend the bi-weekly student recital series for seven to eight semesters as part of their curricular and performance requirements. Performance participation is strongly encouraged.

### SENIOR RECITAL

A senior recital is an option for the music marketing major. Students who wish to perform a senior recital must audition in the spring semester preceding the academic year in which the recital is to be scheduled. Students who successfully complete the audition process should elect MUS 300, section 01 and 03 for this optional elective.

### PIANO COMPETENCY TEST

The Piano Competency Test is required of all B.M. Music Marketing majors in order to qualify either for senior recital or an internship. Students are expected to complete the requirements and take the Competency Test by the end of the sophomore year.

### POLICY ON APPLIED MUSIC CREDIT

All matriculated music majors must elect applied music credits on instrument/voice in residence. For more information see Music Department Chair.

## Natural Sciences

An interdisciplinary program.

### NATURAL SCIENCES, B.A.

55-59 credits

Required: MATH 270, 271; PH 251 or 258 and 268, PH 252 or 259 and 269; CHEM 153, 154, 163 and 164 or CHEM 151, 152, 161, and 162; BIOL 153, 154; ES 252, 258. In addition to these 44-46 credits, the student must take 5 courses totaling not less than 15 credits; 3 of these courses must be in one science (excluding mathematics) and the other two in a different science or in mathematics. All five must be from approved electives.

## Philosophy

PHILOSOPHY, B.A. See Department of Anthropology, Philosophy, Political Science, and Sociology.

## Physics

### Department of Physics, William C. McGowan, Ph.D., Chair

**Professors:** Exton, Keth, McGowan, Snedegar; **Associate Professor:** Rhode

### PHYSICS, B.A.

59 credits

Required: PH 258, 268, 259, 269, 351, 352, 353, 354, 371, 372, 461 and 4 courses from the following: PH 350, 355, 356, 357, 400, 453, 455, 456, and 460. In addition to these courses in Physics, the following are required: MATH 270, 271, 272, 350; CHEM 153, 163.

### PHYSICS, B.S.

68 credits

Required: PH 258, 268, 259, 269, 351, 352, 353, 354, 371, 372, 461 and 4 courses from the following: PH 350, 355, 356, 357, 400, 453, 455, 456, and 460. In addition to these courses in Physics, the following are required: MATH



270, 271, 272, 350; CHEM 153, 163; and 3 other courses selected from the sciences, mathematics, or computer science, not including physics.

The Physics Department also offers a program in secondary teacher preparation, page 125. The cooperative engineering programs in various fields of engineering other than Chemical and Petroleum Engineering are also administered by the Physics Department, pages 72 and 82.

## **Political Science**

POLITICAL SCIENCE, B.A. See Department of Anthropology, Philosophy, Political Science, and Sociology.

## **Pre-Professional Studies**

### ***Pre-Law Studies***

No particular major is required for admission to law school because law schools desire a broadly based undergraduate education that will prepare a student to read, to write, and to think and thus to adapt to a diverse and changing society. Because law deals with human institutions and values, however, some courses are recommended. English language and literature courses are indispensable. Students should also be aware of the institutional processes by which laws are made and thus courses in political science and history are vital. Economics, accounting, and computer science are also recommended by the Association of American Law Schools. Specific courses recommended are as follows: ACTG 251 and 252, ENG 201 and 253, ECON 211 and 212, HIST 120, 121, and 458, and PS 211, 354, and 375. Interested students are strongly urged to contact the pre-law advisor, Professor VanBruggen for further information.

### ***Pre-Master's of Business Administration Option***

The College of Arts and Sciences in cooperation with the College of Business Administration has prepared a program at the baccalaureate level which provides the basic courses needed for further graduate training for business careers. Undergraduate students intending to complete the pre-MBA option will meet the university's general education and special College of Business Administration requirements, will complete an Arts and Sciences major of choice, and will be advised to enroll in specific business administration and related core courses. Completion of the suggested undergraduate program, however, provides neither certification, nor a minor in business administration, nor a guarantee of admission to any graduate business program. The courses provide the student with a background suitable for study at the graduate level.

The student, through consultation with the pre-MBA advisor, will take first lower division skills and general knowledge courses. These courses should help students assess their ability and interest in business subjects and may also provide background preparation for assistantships during their graduate study. The courses, or approved equivalents, include:

ECON	211: Principles of Macroeconomics
ECON	212: Principles of Microeconomics
CIS	110: Introduction to Computer Information Systems
MATH	221: Statistics with Applications

MATH	232: Calculus for Business I
	or
MATH	270: Calculus with Analytic Geometry I
ACTG	251: Financial Accounting
ACTG	252: Managerial Accounting
BSAD	240: Legal Environment I

The student will gain admission to the upper division business courses by (1) maintaining at least a 2.75 QPA both in business courses and overall; (2) earning at least 60 credits, or junior standing; and (3) planning to register for the GMAT during the junior year, taking the examination during the first semester of the senior year. The upper division courses suggested are:

MGMT	320: Management Theory and Practice
MKTG	360: Principles of Marketing
FIN	370: Financial Management
MGMT	425: Production Management

The Arts and Sciences pre-MBA student may not take more than 30 undergraduate credits in the College of Business Administration at Clarion unless formally admitted to Clarion's MBA program. Changes in the requirements for admission to the upper division courses, as well as in the list of suggested appropriate courses, may be made upon approval of both the Colleges of Arts and Sciences and Business Administration. Students should consult Dr. Gendler, the pre-MBA advisor, before registration each term.

### ***Pre-Engineering***

Since curricular requirements vary among engineering schools and fields of specialization, students planning to transfer to a school of engineering must give careful consideration to the requirements of the institutions to which they intend to apply and, with the exception of those in the Cooperative Engineering Program, q.v., should plan to transfer no later than at the completion of their sophomore year. The following courses should be included in their programs at Clarion: MATH 270, 271, 272, 350, 370; CHEM 151, 152, 161, 162; PH 258/268 and 259/269. Interested students should contact Dr. Exton of the Physics Department.

### ***Pre-Medicine, Pre-Dentistry, and Related Fields***

Students who enroll at Clarion intending to enter a professional school for the study of medicine, dentistry, optometry, podiatry, chiropractic, or veterinary medicine, are advised by the Pre-Professional Committee. While students may choose any academic major, they must complete sufficient course work in the sciences, mathematics, and liberal arts to meet admission requirements established by the professional schools. In addition to academic requirements many professional schools expect applicants to have engaged in specific kinds of services related to the profession and to be able to demonstrate a knowledge of the profession through these services. Students must also take an admissions examination designed by the professional association to assist admissions committees in evaluating the applicant's preparation for that profession. Such examinations (MCAT, DAT, GRE, etc.) are normally taken near the end of the junior year or the beginning of the senior year at Clarion.

Since the following courses are usually required by professional schools, it is recommended that students complete the following work at Clarion:

BIOL	153:	Intro. to Animal Biol.	BIOL	451:	Animal Physiology
CHEM	153/163:	General Chemistry I	CHEM	154/164:	General Chemistry II
	OR			OR	
CHEM	151/161:	Chem. Principles I	CHEM	152/162:	Chem. Principles II
CHEM	251/262:	Organic Chem. I	CHEM	252/262:	Organic Chem. II
PH	251:	General Physics I	PH	252:	General Physics II
MATH	270:	Calc. w/Anal. Geom. I	ENG	200:	Composition & Lit
ENG	111:	English Composition		OR	
			ENG	201:	Advanced Composition

The student must also complete the requirements for an academic major within a specific department. If the student chooses to major in one of the sciences, the above courses may be included in the major.

Requirements for admission to specific professional schools vary slightly; thus, the student must determine such requirements through the Pre-Professional Committee.

Admission requirements for the professional schools are high and competition is intense. Students usually should have high school SAT scores of 1000 or better and a high school grade average of 3.5 with emphasis in the sciences, mathematics, and English before starting a pre-professional program. To remain in the program, the student should maintain an academic standing appropriate to admission requirements for his or her particular professional school.

The Pre-Professional Committee will assist students in arranging to take admissions examinations and preparing admissions materials. For information send inquiries to Dr. Paul E. Beck, Department of Chemistry, Chair, Pre-Professional Committee.

To ensure proper advisement, students must contact the Pre-Professional Committee at once.

### ***Pre-Pharmacy***

It is possible for students to transfer to a school of pharmacy after the completion of either the freshman or sophomore year. In either case, they should carefully check the requirements of the school they wish to enter. Student who plan two years of pre-pharmacy study at Clarion should include the following courses in their programs: BIOL 153, 154; CHEM 153, 154, 163, 164, 251, 252; MATH 270; PH 251 and 252. Interested students should contact the pre-pharmacy advisor, Dr. Beck, for additional information and assistance.

### ***Pre-Theological Studies***

There is no fixed pattern of pre-seminary studies, but the American Association of Theological Schools recommends that students who are planning to enter a seminary should major in English, philosophy, or history. Interested students should contact the pre-theology advisor, Dr. Bodoh.

## Psychology

**Department of Psychology, Richard J. Nicholls, Ph.D., Chair**

**Professors:** Combs, Nachtwey, Nicholls; **Associate Professors:** Jolley, Schlueter; **Assistant Professors:** Haynes, Mitchell

**PSYCHOLOGY, B.A.**

**56 credits**

Required: PSY 211, 230, 251, and either 456 or 470, and at least 24 credits in psychology electives chosen in consultation with a departmental advisor. Three elective courses at the 400 level, in addition to PSY 456 or 470, are required. At least one course must be taken from the following: PSY 454, 457, 460, 464, or 467; and at least one from the following: PSY 452, 455, 458, 459, or 465. In addition to the 38 credits in psychology, students are required to select 18 credits from among at least three of the following fields: anthropology, biology, chemistry, computer science, rehabilitative science, history, mathematics, philosophy, physical science, physics, political science, sociology, special education, speech pathology and audiology. In addition to the above, students are required to pass the final examination in their 252 numbered language course.

**PSYCHOLOGY, B.S.**

**56 credits**

Required: PSY 211, 230, 251, and either 456 or 470, and at least 24 credits in psychology electives chosen in consultation with a departmental advisor. Three elective courses at the 400 level, in addition to PSY 456 or 470, are required. At least one course must be taken from the following: PSY 454, 457, 460, 464, or 467; and at least one from the following: PSY 452, 455, 458, 459, or 465. In addition to the 36 credits in psychology, students are required to select 18 credits from among at least three of the following fields: anthropology, biology, chemistry, computer science, rehabilitative science, history, mathematics, philosophy, physical science, physics, political science, sociology, special education, speech pathology and audiology. In addition to the above, students must complete either two computer courses, and one mathematics course (MATH 115 or above), or one computer course and two mathematics courses (Note: Only MATH 110, 171, 221, 230, and MATH courses numbered 270 or above may be used to meet the Math requirement.) Either PHIL 111 or 112 is also required of all students seeking the Psychology B.S. degree.

## Russian

**RUSSIAN, B.A.** See Department of Modern Languages and Cultures.

## Social Sciences

The interdisciplinary Social Sciences program is administered in the office of the dean.

**SOCIAL SCIENCES, B.A.**

**54 credits**

54 credits are required for the major, including 15 credits in one of the following disciplines: anthropology, economics, geography, history, political science, psychology, and sociology, 9 credits in one other, and 6 credits in each of the remaining. At least 12 credit hours must represent junior and/or senior level work.

## Sociology—Psychology

**Robert A. Rath, Ph.D., Coordinator**

Committee members: **Professor:** Nicholls; **Associate Professor:** Rath

An interdisciplinary program.

**SOCIOLOGY-PSYCHOLOGY, B.A.**

56 credits

Required: SOC 211, one of 351, 361, or 362, one of 352, 363, or 370 and three courses of sociology electives; PSY 211, 230, 251 and three courses of approved psychology electives. In addition to these 38 credits in sociology and psychology, 18 credits must be selected representing at least two of the following fields: anthropology, economics, geography, political science.

## Spanish

**SPANISH, B.A.** See Department of Modern Languages and Cultures.

## Speech Communication and Theatre

**Department of Speech Communication and Theatre, Adam Weiss, Ph.D., Chair**

**Professors:** Clark, Hardwick, Weiss, Wright (PT); **Associate Professor:** Marlin; **Assistant Professors:** Kuehn, Levy, Swarts, H. Yang; **Instructor:** McCauliff

**SPEECH COMMUNICATION, B.A.**

36 credits

Required: 36 credits selected from the following courses: SCT 115, 155, 200, 210, 213, 214, 215, 251, 256, 257, 264, 300, 310, 311, 312, 333, 358, 375, 400, 411, 415, 490 and 495.

**SPEECH COMMUNICATION AND THEATRE, B.A.**

36 credits

Required: 12 credits from among the following: SCT 115, 155, 200, 210, 213, 214, 215, 251, 256, 257, 264, 300, 310, 311, 312, 333, 358, 375, 400, 411, 415 and 490; 12 credits from the following: SCT 120, 155, 161, 201, 215, 251, 253, 254, 255, 262, 301, 350, 351, 352, 355, 359, 361, 362, 364, 365, 366, 367, 401, 461 and 490; 12 credits among any of the SCT courses above and 495.

**SPEECH COMMUNICATION AND THEATRE, B.S.**

57 credits

(1) Concentration in Interpersonal Communication: Required: 15 credits from among SCT 200, 214, 264, 300, 312, 358, 375, 400 and 415; a required elective and 18 credits selected from other SCT courses; 9 credits from MATH 110, 171, 221; ECON 221, 222; CIS 110, 151, 152, 223, 224, 253; PSY 230, 251, 455, or PHIL 111, 112; a required course: CIS 217; and 9 credits by advisement in one of the following: anthropology, business, communication, English, history, philosophy, political science, psychology or sociology.

(2) Concentration in Public Communication: Required: 15 credits from among SCT 210, 214, 256, 264, 300, 311; required elective from either COMM 152 or COMM 177, and 18 credits selected from among SCT 115, 200, 213, 215, 257, 310, 312, 358, 400, 415, GS 222; 9 credits selected from MATH 110, 171, 221; ECON 221, 222; CIS 110, 151, 152, 223, 224, 253; PSY 230, 251, 455 or PHIL 111, 112; a required course: CIS 217; and

the following three required core courses of MGMT 320, MGMT 321, COMM 431.

THEATRE, B.F.A. 53 credits

- (1) Concentration in Acting: Required: SCT 155, 201, 251, 253, 254, 255, 301, 359, 361, 363, 365, 366, 461; MUS 162, 163, 172 and 12 credits from among SCT 113, 120, 161, 200, 264, 350, 351, 352, 355, 362, 400; ENG 172, 343, 345, 412, 413. Also required are an audition, four non-credit production labs, a recital, and periodic workshops.

THEATRE, B.F.A. 48 credits

- (2) Concentration in Technical Design/Direction: Required: SCT 120, 161, 253, 262, 352, 359, 362, 363, 364, 367; ART 121, 125, and 12 credits from among SCT 155, 254, 350, 351, 495; ENG 172, 343, 345, 412; ART 111, 112, 113, 114, 126, 222; COMM 152, 251; and MUS 131. Also required are a portfolio, four non-credit labs, a design project and periodic workshops.
- (3) Selection/Retention Standards for BFA/Theatre majors: Students must demonstrate potential for excellence in acting or technical design by means of an audition and/or a portfolio of designs, and audition for acceptance into the degree no later than the end of their second semester in the program.

After completing a total of 60 credit hours, or prior to entering their junior year, B.F.A. students must appear before the theatre staff and demonstrate the following: a minimum of QPA of 2.50 in at least 12 credits within the required core curriculum and a written statement of career goals. At the time of this review, the theatre staff will inform the B.F.A./Theatre student of any program deficiencies and specify a time limit for removing the deficiencies. Students who fail to meet the retention standard will be dropped from the B.F.A./Theatre program. Students may appeal the decision of the theatre staff through the appropriate channels: Department Chair, Dean, and Vice President for Academic Affairs.

## College of Business Administration

**Joseph P. Grunenwald, D.B.A., Dean**

Office: Still Hall

Telephone extension: 2600

### Degree Listing

All candidates for the Bachelor of Science or Associate Science degree in Business Administration are required to take a broad program of business foundation subjects and then choose a business field of specialization in one of the following majors:

Accountancy (BSBA)

Economics (BSBA)

Finance (BSBA)

Industrial Relations (BSBA)

International Business (Minor)

Management (BSBA)

Management/Library

Science (BSBA)

Marketing (BSBA)

Office Management (BSBA)

Real Estate (BSBA)

Business Administration (AS)

(see Venango Campus)

Paralegal Business Studies (AS)

## ***Philosophy and Objectives***

The College of Business Administration offers curricula leading to the degree of Bachelor of Science in Business Administration, the Master of Business Administration, the Associate of Science Degree in Business Administration, and the Associate of Science Degree in Paralegal Business Studies. The College of Business Administration also offers a Minor program in International Business. The description below is concerned mainly with the undergraduate curriculum. For full information concerning the MBA program, refer to the *The Graduate Studies* bulletin and the *Master of Business Administration* bulletin, which may be obtained from the College of Business Administration, Clarion University, Clarion, PA 16214. The description of the Associate of Science degree program is found on pages 136-139.

The curriculum leading to the degree of Bachelor of Science in Business Administration is designed to assist students in arriving at a better understanding of the complex relationships inherent in the rapidly changing domestic and international world of business, industry, and government; to provide educational experience that will help students develop their potential for leadership and service; to stimulate the growth of students as individuals and citizens; and to provide a qualitative environment in which educational enrichment can take place.

Supplemented by broad general requirements in the humanities, the social sciences, and the natural sciences, the business curriculum offers a well balanced program of courses in business administration and economics which will not only help prepare students for careers in business, industry, and government, but will also give preparatory training to students who plan to further their education through graduate study in business, economics, or law.

Although there is opportunity to develop depth in certain areas, i.e., accountancy, economics, finance, industrial relations, management, management/library science, marketing, office management, and real estate, emphasis in the program is not on deep specialization but rather on the development of analytical ability, intellectual toughness, imagination, the ability to communicate ideas, and adaptability so that technological change does not render the education obsolete.

## ***Academic Standards***

1. Math requirements. All students in the College of Business Administration are required to take MATH 131 and 232 or their equivalents. Advanced courses beyond MATH 131 and 232 are accepted in lieu of this requirement. These may include MATH 171 or above for MATH 131. For MATH 232, students may substitute MATH 270, 271, or 272.
2. Separation of upper- and lower-division programs of study. All business students are required to apply for admission to the upper-division course of study in the College of Business Administration. The upper-division consists of all courses numbered 300 and above. No student is permitted to take any 300- or 400-level course in the College of Business Administration until the student has applied for and been accepted into the upper-division. In order to apply and be accepted for upper-division study in the College of Business Administration each student shall:
  - a. Have completed MATH 131 and 232 or their equivalents;

- b. Have completed all required courses in the business core with a 100- or 200-level designation (ECON 211, ECON 212, CIS 110, ACTG 251, ACTG 252, ECON 221, ECON 222, BSAD 240);
  - c. Have completed not less than 50 hours with a minimum average of 2.00/4.00. In addition each student shall have a minimum average of 2.00/4.00 in all 100-level and 200-level course in the business core.
3. Upper-division courses are considered those courses numbered 300 or above. Each student shall have a minimum average of 2.00/4.00 in all the 300-level or above courses in the business core (ECON 310, MGMT 320, MKTG 360, FIN 370, MGMT 425, BSAD 490). In order to graduate, students must meet university requirements, the above standards, and achieve a minimum grade of C in each course presented as meeting the requirements for the major. The semester hour credits required for the degree of Bachelor of Science in Business Administration are summarized as follows:
- |  |             |
|--|-------------|
| General Education:                         | 54 credits  |
| Business Foundation subjects:              | 36 credits  |
| Business and Economics Electives (Majors): | 24 credits  |
| Free Electives:                            | 14 credits  |
| Total required for graduation              | 128 credits |
4. All business majors at Clarion are required to take at least six (6) credits in courses with international content. These credits are to be utilized to satisfy requirements in either the major, general education, or free electives. At least three of these should be business credits and will be applied to the major. Courses taken to satisfy this requirement must be selected from the approved international course list. Students should see their advisor or check with the Dean's Office, Still Hall, for the approved list.

## General Education Requirements

The general education program required for all students in the university is presented on pages 65-66; however, students majoring in Business Administration must include six credits in mathematics (at least MATH 131, 232, or their equivalents) in fulfilling general education or free elective requirements. They must also add six credits in economics (ECON 211 and 212). The general education requirements are summarized as follows:

Modes of Communication	12 credits
Natural Sciences & Mathematics	9 credits
Social Sciences	9 credits
Humanities	9 credits
Personal Development & Life Skills (includes Health and Physical Education)	9 credits
Additional General Education (Economics)	6 credits
Total	54 credits

## Business Foundation Requirements

Regardless of the major chosen, all students of Business Administration must take 36 hours of **Foundation Subjects**. These have been selected with the following primary objective in mind:

1. To give students an insight into the major functions of organizations whether they be private business firms or local, state, or federal government agencies.
2. To give students an understanding of the major problems within organizations as they pursue their goals.



3. To assist students in using the insights and methods of the humanities, social sciences, and natural sciences to analyze and illuminate these problems. Each of the Foundation Subjects either deals with an important aspect of organization or provides a tool which can be used in attacking problems faced by individuals in organizations. The courses as a whole comprise a common body of knowledge in business and administration.
4. To provide students with an understanding of the domestic and world-wide environment of business.

The following foundation courses are required of all business administration students.

ADDITIONAL GENERAL EDUCATION

ECON	211: Principles of Macroeconomics	3 credits
ECON	212: Principles of Microeconomics	3 credits

ACCOUNTING AND QUANTITATIVE

CIS	110: Computer Information Processing	3 credits
ACTG	251: Financial Accounting	3 credits
ACTG	252: Managerial Accounting	3 credits
ECON	221: Econ. & Bus. Statistics I	3 credits
ECON	222: Econ. & Bus. Statistics II	3 credits

ENVIRONMENTAL

BSAD	240: Legal Environment I	3 credits
ECON	310: Intermediate Microeconomics	3 credits

NOTE: ECON 211 and 212 are prerequisites for ECON 310.

FUNCTIONS

MGMT	320: Management Theory and Practice	3 credits
MKTG	360: Principles of Marketing	3 credits
FIN	370: Financial Management	3 credits
MGMT	425: Production Management	3 credits

ADMINISTRATIVE PROCESS

BSAD	490: Admin. Decision Making	3 credits
Total		36 credits

Major Requirements

In addition to the general education and business foundation courses outlined above, all students studying business administration must build up a major consisting of at least eighteen hours in one of the following areas:

Accountancy	Management
Economics	Management/Library Science
Finance	Marketing
Industrial Relations	Office Management
	Real Estate

Twenty-four hours of business and economics electives are required for each major. Of these twenty-four hours, at least eighteen are specified for the major. Any unspecified hours in the major may be satisfied by any business or economics course not used to meet other requirements. Specific course requirements for each of these majors are outlined under the five academic departments on the following pages.

## ***Accounting (BSBA)***

The following courses are required:

ACTG	350: Intermediate Accounting	3 credits
ACTG	351: Accounting for Equities	3 credits
ACTG	352: Cost Accounting	3 credits
ACTG	353: Federal Taxes	3 credits
ACTG	354: Auditing	3 credits
ACTG	355: Advanced Accounting	3 credits

One course from the following:

ACTG	451: Accounting Problems
ACTG	452: Advanced Cost Accounting
ACTG	453: Problems in Federal Taxation Accounting
ACTG	454: Comparative Accounting Systems
ACTG	455: Not-For-Profit Entities
ACTG	461: International Accounting
*ACTG	490: Current Accounting Pronouncements & Practice
ACTG	499: Special Topics in Accounting

\*Prerequisite: COOP 420: Accounting Internship offered during the spring semester of the senior year for 9 credits.

One international business course from the following:

ACTG	461: International Accounting
MGMT	426: International Business
BSAD	437: International Business Seminar
ECON	312: Comparative Economic Systems
ECON	361: International Economic Relations
ECON	363: Economic Development
FIN	480: Multinational Financial Management
MKTG	469: International Marketing

## **Suggested Course of Study Sequence**

Refer to the eight semester sequence listed on page 92. ECON 370 or ECON 410 and BSAD 241 are not required courses but should be selected by students participating in the Five-Year Professional course of study.

A ten-week, full-time Accounting Internship is available to qualified seniors during the Spring semester for 9 credits. The last five weeks of the Spring semester are for the ACTG 490: Current Accounting Pronouncements and Practice course for 3 credits. In addition, ACTG 461: International Accounting is offered as an elective during the last five weeks of the Spring semester. A limited number of accounting internships is available during the Summer and Fall semester for 3-9 credits.

## ***Accounting (BSBA/MBA)—Professional Accountancy Course of Study***

The Professional Accountancy Program leads to both the Bachelor of Science in Business Administration and the Master of Business Administration degrees. The sequence of 164 semester hours of course work (167 semester hours with any 400 level Accounting course included) is designed to prepare persons for entry into the practice of professional accountancy as prescribed by the American Institute of Certified Public Accountants.

### **FRESHMAN YEAR**

- |                      |                      |
|----------------------|----------------------|
| 1. General Education | 2. General Education |
|----------------------|----------------------|

### **SOPHOMORE YEAR**

- |  |  |
|--|--|
| 1. General Education<br>and General Business | 2. General Education<br>and General Business |
|--|--|

### **JUNIOR YEAR**

- |                             |                          |
|-----------------------------|--------------------------|
| 1. General Business         | 3. General Education     |
| 2. Professional Accountancy | 4. Advisement and Review |
- Admission to Professional Accountancy Course of Study

### **SENIOR YEAR**

- |  |   |
|--|---|
| 1. Approval for Continuation<br>in Course of Study | 6. Advisement and Review                            |
| 2. General Business                                | 7. Graduation                                       |
| 3. Professional Accountancy                        | a. Optional exit with<br>Bachelor of Science Degree |
| 4. General Education                               | b. Bachelor of Science                              |
| 5. Admission to Graduate School                    | Continue in course of study                         |

### **GRADUATE YEAR**

- |  |  |
|--|--|
| 1. Approval for Continuation<br>in Course of Study | 3. Professional Accountancy  |
| 2. General MBA Courses                             | 4. Graduate with Master<br>of Business Administration<br>and Five-Year Certificate |

Courses with 500 or 600 numbers are graduate level courses only. Courses with 400 numbers may be graduate or undergraduate credit (graduate credit must have prior approval).

#### **Elective Credits:**

In selecting electives to meet general education requirements students should select the following:

**Business Law:** Three additional credits should be selected (BSAD 241: Legal Environment II) 3 credits

**Intermediate Economic Analysis and the Monetary System:** Three credits involved with the study of the monetary system, (e.g., ECON 370: Money and Banking; ECON 410: Managerial Economics) should be selected 3 credits

**Written and Oral Communications:** Six credits beyond English III in written and oral communications must be selected.

Three of these credits must be related to written business communications (e.g., ENG 206: Business Writing). Three additional credits must be in oral communications (e.g., SCT 113: Fundamentals of Speech; SCT 213: Advanced Public Speaking; SCT 300: Communication in Organizations).

Students participating in the Professional Accountancy course of study must select courses such that all of the general education requirements are met. The courses to meet these requirements should be determined jointly by students and their advisors. If there are elective hours available at either the undergraduate or graduate level, and if selected, such electives must be classified as free electives on the existing check sheet for business students.

### Suggested Course of Study Sequence

It is conceivable that the course of study could be completed in as few as ten semesters by following the suggested sequence. Students who are awarded Graduate Assistantships should expect to extend the time necessary to complete the course of study. Other students may wish to spread their studies over eleven or twelve semesters, depending on their particular needs and abilities.

#### FIRST SEMESTER

MATH 131: Math for Business and  
Economics . . . . .3  
Written or Oral  
Communications. . . .3  
General Education . . .10

#### THIRD SEMESTER

ACTG 251: Financial Accounting . .3  
ECON 211: Principles of Macro-  
economics. . . . .3  
ECON 221: Economics & Bus.  
Stats. I. . . . .3  
CIS 110: Computer Info.  
Processing. . . . .3  
ENG 206: Business Writing. . . .3

#### FIFTH SEMESTER

ACTG 350: Intermediate Actg. . . .3  
ACTG 352: Cost Actg . . . . .3  
ECON 310: Intermediate Micro. . .3  
FIN 370: Financial Mgmt. . . . .3  
MGMT 320: Mgmt. Theory  
and Practice . . . . .3

#### SEVENTH SEMESTER\*

ACTG 354: Auditing . . . . .3  
ACTG 355: Advanced Accounting .3  
MGMT 425: Production Mgmt . . .3  
General Education . .3  
Elective (BSAD 241) . .3

#### NINTH SEMESTER\*

ACTG 653: Federal Tax Research  
& Practice . . . . .3  
ACTG 650: Theory of Accts . . . .3  
ECON 510: Managerial Econ . . . .3  
ECON 603: Quant. Analysis for  
Bus. Decisions. . . . .3

#### SECOND SEMESTER

BSAD 240: Legal Environment I. . .3  
MATH 232: Calculus for Business I .3  
Written or Oral  
Communications. . . .3  
General Education . . .7

#### FOURTH SEMESTER

ACTG 252: Managerial Actg . . . .3  
ECON 212: Principles of Micro-  
economics. . . . .3  
ECON 222: Economics & Bus.  
Stats. II . . . . .3  
General Ed . . . . .6

#### SIXTH SEMESTER

ACTG 351: Acctg. for Equities . . .3  
ACTG 353: Federal Taxes . . . . .3  
MKTG 360: Prin. of Marketing . . .3  
General Ed . . . . .6  
Elective  
(ECON 370 or 410). . .3

#### EIGHTH SEMESTER\*

Accounting Elective . . .3  
MGMT 490: Administrative Decision  
Making . . . . .3  
General Education or  
Internship . . . . .9  
International Business . .3

#### TENTH SEMESTER\*

ACTG 652: Advanced Cost and  
Managerial Actg. . . .3  
ACTG 554: Advanced Auditing. . .3  
ACTG 454: Comparative Actg.  
Systems or other infor.  
systems course . . . .3

MGMT 521: Org. Structure & Behav	3	BSAD 690: Adm. & Bus. Policy	...3
MKTG 560: Marketing Decision Making	.....3	FIN 675: Adv. Managerial Finance	.....3
		MGMT 626: Productions/operations Mgmt	.....3

Total Credits: 164

\*Students may possibly take graduate credits during their senior year and summer, provided they have been admitted to the graduate program.

Administrative Science

Department of Administrative Science, James G. Pesek, Ph.D., Chair  
Office: Still Hall, Room 335  
Telephone extension: 2626  
Professors: Ackerman, Fulmer, Maggio, Pesek, Reed; Associate Professors: F. Clark, Cordero; Assistant Professor: Kavoosi

Management (BSBA)

The following courses are required:

MGMT	321: Current Issues in Organization Theory and Behavior	3 credits
MGMT	322: Selection and Management of Business Information Systems	3 credits
MGMT	324: Personnel Management	3 credits
MGMT	426: International Business	3 credits

Additionally, Management majors must follow one of three tracks: General Management, Quantitative Management, or Small Business Management

GENERAL MANAGEMENT

Three courses from the following:		9 credits
MGMT	323: Problems in Small Business	
MGMT	420: Operations Research I	
MGMT	421: Operations Research II	
MGMT	427: Small Business Seminar	
MGMT	445: Management Seminar	
MGMT	482: Collective Bargaining	
MGMT	483: Wage and Salary Administration	
MGMT	485: Industrial Relations and Public Policy	
BSAD	437: International Business Seminar	
MKTG	361: Marketing Management	

QUANTITATIVE MANAGEMENT

The following are required:		9 credits
MGMT	420: Operations Research I	
MGMT	421: Operations Research II	
ECON	423: Statistical Tools for Quantitative Analysis	

SMALL BUSINESS MANAGEMENT

The following are required:		9 credits
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MGMT	323: Problems in Small Business
MGMT	427: Small Business Seminar
MKTG	361: Marketing Management

### ***Management/Library Science (BSBA)***

The following courses are required:

MGMT	321: Current Issues in Organization Theory and Behavior. . . . .	3 credits
MGMT	324: Personnel Management . . . . .	3 credits
LS	257: Basic Information Sources & Services. . . . .	3 credits
LS	258: Selection of Library Media . . . . .	3 credits
LS	260: Development and Administration of Libraries . . . . .	3 credits
LS	357: Organization of Media . . . . .	3 credits
LS	385: Automation and the School Library Media Center . . .	3 credits
LS	491: Business Reference Sources and Services . . . . .	3 credits

One of the following:

MGMT	445: Management Seminar . . . . .	3 credits
MGMT	485: Industrial Relations and Public Policy. . . . .	3 credits

### ***Office Management (BSBA)***

The first two years of this major are offered only at the Venango Campus and lead to the Associate of Arts degree. Students will, at their option, be able to transfer to Main Campus, Clarion, with no loss of credit.

Required courses first two years:

General Education	17 credits
General Business courses	27 credits
Skill area:	18 credits

OFMT	132: Production Typing	3 credits
OFMT	136: Executive Shorthand	3 credits
OFMT	221: Office Management	3 credits
OFMT	230: Office Procedures	3 credits
OFMT	232: Word Processing	3 credits
Business Electives		3 credits

Total for Certificate	62 credits
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Students moving into the bachelor's degree program will complete their work on the Clarion Campus. They will be held responsible for all of the common requirements for the Bachelor of Science in Business Administration degree and the following specific courses in Administrative Science:

MGMT	321: Current Issues in Organization Theory and Behavior
MGMT	324: Personnel Management
MGMT	483: Wage and Salary Administration
MGMT	485: Industrial Relations and Public Policy

Additional course work to complete the twenty-four (24) credit obligation for this major is recommended by the student's advisor, subject to approval by the Department of Administrative Sciences Chair. Such course work could include:

MGMT	322: Business Information Systems
MGMT	445: Management Seminar
BSAD	437: International Business Seminar

## ***Industrial Relations (BSBA)***

The following courses are required:

MGMT	324	Personnel Management	3 cr.
ECON	351	Labor Economics	3 cr.
MGMT	482	Collective Bargaining	3 cr.
MGMT	483	Wage and Salary Administration	3 cr.
MGMT	485	Industrial Relations and Public Policy	3 cr.

Two courses from the following:

HIST	299	History of American Labor	3 cr.
MGMT	321	Current Issues in Organization Theory and Behavior	3 cr.
MGMT	445	Management Seminar	3 cr.
SOC	351	Contemporary Social Problems	3 cr.
ECON	311	Macroeconomics Theory	3 cr.
PSY	350	Industrial Psychology	3 cr.
BSAD	437	International Business Seminar	3 cr.

## **Economics**

**Department of Economics, Enid Dennis, Ph.D., Chair**

Office: Still Hall

Telephone extension: 2627

**Professors:** Balough, E. Dennis, W. Ross, Sarjit Singh, Vernon; **Associate**

**Professors:** Sanders, Sohng, Stine, C. Yang

Students may take a major in Economics either in the College of Business Administration or the College of Arts and Sciences.

## ***Economics (BSBA)***

### **Course Requirements**

The Economics Department has instituted several tracks which help students select a program to meet their interests and career goals. All tracks require ECON 311: Intermediate Macroeconomic Theory. Students may choose additional Economics courses from the following tracks.

a. Monetary Economics Track (15 cr. hrs.)

ECON 370: Money and Banking

ECON 371: Public Finance

ECON 361: International Economic Relations

Select two additional Economics courses or one additional Economics course and FIN 476: Securities Analysis.

b. Quantitative Economics Track (15 cr. hrs.)

ECON 410: Managerial Economics

ECON 423: Statistical Tools for Quantitative Analysis

ECON 470: Business Cycles and Forecasting

Select two additional Economics courses.

c. International Economics Track (15 credits)

ECON 312: Comparative Economic Systems

ECON 361: International Economic Relations

ECON 363: Economic Development

Select MGMT 426: International Business and one additional Economics course or two additional Economics courses.

d. Urban and Public Affairs Track (15 cr. hrs.)

ECON 314: Urban and Regional Economics

ECON 340: Government Regulations

ECON 351: Labor Economics

Select two additional Economics courses or one additional Economics course and PS 375: Public Administration.

e. General Economics Track (15 cr. hrs.)

Five courses in Economics to be selected in consultation with and approved by the student's advisor.

## Finance

**Department of Finance, Jeffrey Eicher, J.D., Chair**

Office: 336 Still Hall

Telephone extension: 2626

**Professors:** Ewedemi, Moody, Stuhldreher, VanLandingham, Yeane;

**Associate Professor:** Eicher, Eichlin; **Assistant Professors:** Bish, Henry;

**Instructor:** Hall

### *Finance (BSBA)*

The finance curriculum prepares students for a variety of positions in financial and non-financial enterprises. Since the finance function permeates every organization, students are given an opportunity to select an area in finance in which to concentrate by the appropriate choice of electives.

The following courses are required:

FIN	373	Fundamentals of Insurance	3 credits
FIN	375	Management of Fin. Institutions	3 credits
FIN	376	Security Markets	3 credits
FIN	471	Financial Problems	3 credits

Three courses from the following:

FIN	374	Property and Casualty Insurance
FIN	377	Medical Care Finance
FIN	473	Retirement and Estate Planning
FIN	476	Security Analysis
FIN	480	Multinational Financial Management
RE	373	Real Estate Finance
RE	471	Real Estate Investment Analysis
ECON	370	Money and Banking
ECON	371	Public Finance

### *Real Estate (BSBA)*

The real estate program is designed to prepare students for careers in the brokerage and investment fields. The brokerage track instructs in the selling and management of residential and commercial real estate. The investment track



prepares students for careers with development firms, mortgage lenders, life insurance companies, and brokerage firms with real estate trusts.

The following courses are required:

RE	370	Real Estate Fundamentals	3 credits
RE	372	Real Estate Law	3 credits
RE	373	Real Estate Finance	3 credits
RE	471	Real Estate Investment Analysis	3 credits

### **BROKERAGE TRACK**

Three courses from the following: 9 credits

RE	371	Real Estate Practice
RE	374	Brokerage of Real Estate
RE	470	Appraisal of Real Estate
BSAD	241	Legal Environment II

### **INVESTMENT ANALYSIS TRACK**

Three courses from the following: 9 credits

RE	470	Appraisal of Real Estate
FIN	376	Security Markets
FIN	476	Security Analysis
ECON	314	Urban and Regional Economics

All courses with an RE designation have been approved by the Pennsylvania Real Estate Commission for three credits each toward meeting the education requirements for real estate brokerage licensing.

RE 370 and 371 are the only courses applicable toward meeting requirements of the salesperson licensing examination.

## **International Business, Minor**

The College of Business Administration also offers an interdisciplinary Minor in International Business, open to all business administration and other majors meeting the prerequisites for courses required in the program. Students wishing to formally elect this Minor are urged to contact their advisor or the Department of Economics, which administers the program, early in their college career. Additional information can be obtained from the Director of International Programs office.

The Minor in International Business includes four program requirements:

1. International Business Courses: students must complete four upper division international business courses (12 credits) from among the following:

ACTG	461:	International Accounting (prerequisites: ACTG 351 or consent of instructor)
ECON	312:	Comparative Economic Systems (prerequisites: ECON 211; ECON 212)
ECON	361:	International Economic Relations (prerequisites: ECON 211; ECON 212)
ECON	363:	Economic Development (prerequisites: ECON 211; ECON 212)
FIN	480:	Multinational Financial Management (prerequisites: ECON 211; ECON 212; ACTG 251; ACTG 252; FIN 370)
MGMT	426:	International Business (prerequisite: MGMT 320)

MKTG 469: International Marketing  
(prerequisite: MKTG 360)

2. International Cultural Courses: students must complete two courses (6 credits) from the College's Approved International Course List (excluding business courses and elementary or intermediate foreign language courses).
3. Foreign Experience Requirement: students may meet their requirements in a variety of ways including completing BSAD 437: International Business Seminar; completing a COOP or Internship course working with a foreign or international firm; or completing a foreign study abroad experience. Students who opt for an internship in a foreign country are advised to take a COMMERCIAL Language course.
4. Modern Language Requirement: students must show competency in a language other than English. This will be accomplished by passing a nationally recognized language proficiency exam at Level I as a minimum in any language covered by that examination. Students interested in taking an internship in a foreign country are required to be proficient in that language at Level II.

## Marketing

**Department of Marketing, Paul Y. Kim, Ph.D., Chair**

Office: 338 Still Hall

Telephone extension: 2627

**Professors:** Garland, Kim, K. Traynor, Wilson; **Associate Professor:** L. Felicetti

### *Marketing (BSBA)*

The following courses are required:

MKTG 461: Marketing Research	3 credits
MKTG 465: Marketing Problems	3 credits

Two of the following: 6 credits

MKTG 361: Marketing Management
MKTG 363: Advertising Management
MKTG 468: Consumer Behavior

Two of the following: 6 credits

MKTG 362: Retailing Management
MKTG 364: Principles of Selling
MKTG 365: Industrial Marketing
MKTG 366: Physical Distribution Management
MKTG 367: Industrial Buying
MKTG 390: Marketing for Non-Profit Organizations
MKTG 460: Sales Management
MKTG 495: Special Topics in Marketing
MKTG 361, 363, 468, listed above

In addition each marketing major will be required to take one approved business or economics course with international content. Recommended Marketing course:

MKTG 469: International Marketing	3 credits
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## College of Communication and Computer Information Science

**Frank H. Sessions, Ph.D., Interim Dean**

Office: Becker Hall

Telephone Extension: 2328

### Degree Listing

Communication (B.S.)

Computer Science (B.S.)

Computer Application and Information Systems (Minor)

Computer Science (Minor)

### Communication

**Department of Communication, William Lloyd, M.S., Chair**

Office: Becker Hall

Telephone Extension: 2328

**Professors:** C. Felicetti, Larson; **Associate Professors:** Baker, Barlow, Fueg, Marini, Pfaff, Siddiqui; **Assistant Professors:** Kuehn, Lloyd, Washington

The Department of Communication offers a broadly-based program leading to the Bachelor of Science Degree in Communication. It is interdisciplinary in nature, requiring courses from English, Speech Communication, Business, Philosophy, and the Department of Communication.

The program is designed to develop the student's ability to write and speak effectively, and to use other media—radio, television, film, photography, and the print medium—for specific purposes. Required courses in business, computer science, and logic provide a basic understanding of organizational behavior and skills necessary to function effectively in a variety of organizations. Electives may be selected from any academic area of the university. If desired, they may be concentrated to provide additional training for specific career goals.

Graduates have assumed positions in business, industry, governmental agencies and non-profit organizations in public relations, advertising, radio and television broadcasting, employee training and publication functions.

Students majoring in Communication must complete 48 credits in General Education, which includes Modes of Communication, Natural Science and Mathematics, Social Sciences, Humanities, and Personal Development and Life Skills. In addition to general education, major, and elective course requirements, students are required to participate a minimum of two semesters in co-curricular media activities to consist of one broadcast-oriented organization and one print-oriented organization. Broadcast organizations are Cable TV-5, WCUC-FM non-commercial FM radio station, and WCCB carrier current AM radio station. Print organizations are The Clarion Call campus newspaper and The Sequelle yearbook. Students who wish to fulfill this requirement by working for another radio or television station or newspaper may do so with agreement of both academic advisor and employer. The student is expected to own or have access to a 35mm camera with variable focus and f-stop, and a built-in or separate light meter. Guidance in selecting an appropriate camera will be provided after the student has entered the program.

COMMUNICATION, B.S.

63 credits

Required courses: ENG 200, 201, 206; SCT 113, 115 or 264, 300 or MGMT 321; MGMT 320; ECON 211; ACTG 251; CIS 110; PHIL 111; COMM 100, 152, 171, 251, 271, 351, 352, 451, 452.

## Computer Information Science

**Department of Computer Information Science, Michael Barrett, M.S., Chair**

Office: 106 Becker Hall

Telephone Extension 2328

**Professor:** E. Ross; **Associate Professors:** Dean, Schaeffer; **Assistant Professors:** Barrett, Holden, Kahle, S. Traynor

The Department of Computer Information Science offers two majors leading to a Bachelor of Science Degree. One major is Computer Application and Information Systems (CAIS). This major prepares students for careers in application programming and systems analysis. Major emphasis is placed on the COBOL programming language and on the principles necessary for computer usage in commercial, industrial, and governmental environments.

The other major is Computer Science (CS) which prepares students for careers in systems programming, computer systems analysis, and computer system management. This major places heavy emphasis on mathematical foundations of computation and principles of data organization and computer system software.

The Department of Computer Information Science also offers a Computer Application and Information Systems (CAIS) minor and a Computer Science (CS) minor. These minors provide students with a solid knowledge of computers and their applications to assist them in gaining employment and coping with the rapid changes in technology that are affecting and will continue to affect both their personal and professional lives.

Computing facilities at Clarion are designed to provide students with a broad background of marketable skills on the most current equipment and software. Students have access to a VAX 11-785 computer through terminals in the Becker laboratory with all major programming languages available, including BASIC, COBAL, FORTRAN, and PASCAL. More than thirty microcomputers are also available for student use. Each microcomputer is a workstation to a Novell Local Area Network and provides the student with access to such current productivity tools as WordPerfect, LOTUS 123 and R: Base System V.

### ***Computer Application and Information Systems (CAIS) Major***

#### **Required Courses**

**Cr. Hrs.**

CIS	120	Principles Applied Information Systems . . . . .	3
CIS	223	Computer Programming—COBOL . . . . .	3
CIS	301	Computer Systems Analysis . . . . .	3
CIS	324	Data Structure and File Utilization—COBOL . . . . .	3
CIS	401	Systems Development Project . . . . .	3
CIS	402	Data Base Management Systems . . . . .	3
CIS	403	Data Communications . . . . .	3
ACTG	251	Financial Accounting . . . . .	3

ACTG	252	Managerial Accounting . . . . .	3
ECON	211	Principles of Macroeconomics . . . . .	3
ECON	212	Principles of Microeconomics . . . . .	3
ECON	221	Economic and Business Statistics I . . . . .	3
ECON	222	Economic and Business Statistics II . . . . .	3
FIN	370	Financial Management . . . . .	3
MATH	131	Mathematics for Business and Economics . . . . .	3
MATH	232	Calculus for Business I . . . . .	3
MGMT	320	Management Theory and Practice . . . . .	3
MGMT	425	Production Management . . . . .	3
MKTG	360	Principles of Marketing . . . . .	3

**Major Elective Courses: (9 credits)**

CIS	151	FORTTRAN I . . . . .	3
CIS	211	RPG II - Report Program Generator . . . . .	3
CIS	212	Micro/Mini Computer Systems . . . . .	3
CIS	253	Computer Organization and Assembly Language . . . . .	3
CIS	302	EDP Auditing and Security . . . . .	3
CIS	305	Artificial Intelligence in Decision Making . . . . .	3
CIS	462	Simulation and Modeling . . . . .	3

**Suggested Sequence of CAIS Major Courses:****First Semester**

CIS	120	Principles of Applied Information Systems . . . . .	3
MATH	131	Mathematics for Business and Economics . . . . .	3

**Second Semester**

CIS	223	Computer Programming—COBOL . . . . .	3
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**Third Semester**

ECON	211	Principles of Macroeconomics . . . . .	3
MATH	232	Calculus for Business I . . . . .	3
ACTG	251	Financial Accounting . . . . .	3
CIS	324	Data Structure and File Utilization—COBOL . . . . .	3

**Fourth Semester**

ECON	212	Principles of Microeconomics . . . . .	3
ACTG	252	Managerial Accounting . . . . .	3
ECON	221	Economic and Business Statistics I . . . . .	3
Choose one major elective course . . . . .			3

**Fifth Semester**

CIS	301	Computer Systems Analysis . . . . .	3
ECON	222	Economic and Business Statistics II . . . . .	3
Choose one major elective course . . . . .			3

**Sixth Semester**

MGMT	320	Management Theory and Practice . . . . .	3
FIN	370	Financial Management . . . . .	3
CIS	403	Data Communications . . . . .	3

**Seventh Semester**

CIS	402	Data Base Management Systems . . . . .	3
MKTG	360	Principles of Marketing . . . . .	3
Choose one major elective course . . . . .			3

### Eighth Semester

MGMT	425	Production Management	3
CIS	401	Systems Development Project	3

### *Computer Science (CS) Major*

Required Courses:			Cr. Hrs.
CIS	163	Introduction to Programming & Algorithms I	3
CIS	164	Introduction to Programming & Algorithms II	3
CIS	253	Computer Organization and Assembly Language	3
CIS	254	Information Structure	3
CIS	255	Survey of Languages	3
CIS	340	Discrete Mathematical Structures	3
CIS	350	Machine Architecture and Systems Software	3
CIS	355	Operating Systems I	3
CIS	356	Data Structures and Algorithm Analysis	3
CIS	357	Structure of Programming Languages	3
CIS	460	Introduction to Theory of Computation	3
CIS	469	Seminar in Computer & Information Science	1
MATH	270	Calculus with Analytic Geometry I	4
MATH	271	Calculus with Analytic Geometry II	4
MATH	370	Introduction to Linear Algebra	3

#### Major Elective Courses: (12 credits)

CIS	212	Micro/Mini Computer Systems	3
CIS	223	Computer Programming—COBOL	3
CIS	301	Computer Systems Analysis	3
CIS	302	EDP Auditing and Security	3
CIS	305	Artificial Intelligence in Decision Making	3
CIS	324	Data Structure and File Utilization—COBOL	3
CIS	401	Systems Development Project	3
CIS	402	Data Base Management Systems	3
CIS	403	Data Communications	3
CIS	461	Operating Systems II	3
CIS	462	Simulation and Modeling	3
MATH	272	Calculus with Analytic Geometry III	3
MATH	360	Numerical Methods in Mathematics I	3
MATH	455	Probability	3
MATH	460	Numerical Methods in Mathematics II	3
MGMT	420	Operations Research I	3
MGMT	421	Operations Research II	3

Any CIS courses numbered above 255 (excluding CIS 422)

#### Suggested Sequence of CS Major Courses:

##### First Semester

CIS	163	Introduction to Programming and Algorithms I	3
MATH	270	Calculus with Analytic Geometry I	4

##### Second Semester

CIS	164	Computer Programming—COBOL	3
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MATH	271	Calculus with Analytic Geometry II . . . . .	4
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### Third Semester

CIS	253	Computer Organization and Assembly Language . . . . .	3
CIS	254	Information Structure . . . . .	3

### Fourth Semester

CIS	255	Survey of Languages . . . . .	3
CIS	356	Data Structures and Algorithms Analysis . . . . .	3

### Fifth Semester

CIS	355	Operating Systems I . . . . .	3
MATH	370	Introduction to Linear Algebra . . . . .	3
		Choose one major elective course . . . . .	3

### Sixth Semester

CIS	350	Machine Architecture and Systems Software . . . . .	3
		Choose one major elective course . . . . .	3

### Seventh Semester

CIS	357	Structure of Programming Languages . . . . .	3
CIS	340	Discrete Mathematical Structures . . . . .	3
		Choose one major elective course . . . . .	3

### Eighth Semester

CIS	460	Introduction to Theory of Computation . . . . .	3
CIS	469	Seminar in Computer & Information Science . . . . .	3
		Choose one major elective course . . . . .	3

## ***Computer Application and Information Systems (CAIS) Minor***

### **Required Courses:** **Cr. Hrs.**

CIS	110	Introduction to Computer Information Systems . . . . .	3
CIS	217	Applications of Microcomputers . . . . .	3
CIS	223	Computer Programming—COBOL . . . . .	3
CIS	301	Computer Systems Analysis . . . . .	3

### **Minor Elective Courses: (6 credits)**

CIS	302	EDP Auditing and Security . . . . .	3
CIS	324	Data Structure and File Utilization—COBOL . . . . .	3
CIS	402	Data Base Management Systems . . . . .	3
CIS	403	Data Communications . . . . .	3

## ***Computer Science (CS) Minor***

### **Required Courses:** **Cr. Hrs.**

CIS	163	Introduction to Programming and Algorithms I . . . . .	3
CIS	164	Introduction to Programming and Algorithms II . . . . .	3
CIS	253	Computer Organization and Assembly Language . . . . .	3
CIS	254	Information Structures . . . . .	3

### **Minor Elective Courses: (6 credits)**

CIS	340	Discrete Mathematical Structures . . . . .	3
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CIS	350	Machine Architecture and Systems Software . . . . .	3
CIS	355	Operating Systems I. . . . .	3
CIS	356	Data Structures and Algorithms Analysis . . . . .	3
CIS	357	Structure of Programming Languages . . . . .	3
CIS	402	Data Base Management Systems. . . . .	3
CIS	460	Introduction to Theory of Computation . . . . .	3
MATH	370	Introduction to Linear Algebra . . . . .	3

## College of Education and Human Services

**Charles R. Duke, Ph.D., Dean**

Office: Stevens Hall

Telephone Extension: 2146

### Degree Listing

#### Teacher Education

Early Childhood Education (B.S.Ed.) certification for grades N-3

Elementary Education (B.S.Ed.) certification for grades K-6

Elementary Education/Early Childhood Education (B.S.Ed.)

Elementary Education/Library Science (B.S.Ed.)

Elementary Education/Special Education (B.S.Ed.)

Library Science (B.S.Ed.) certification for grades K-12

Music Education (B.S.Ed.) certification for grades K-12

Special Education (B.S.Ed.) certification for grades K-12

Special Education/Rehabilitative Sciences (B.S.Ed.)

Speech Pathology & Audiology: (B.S.) pre-professional degree

Secondary Education (B.S.Ed.) certification for grades 7-12

Biology

French

Physics

Chemistry

General Science

Russian

Communication Arts

German

Social Studies

Earth & Space Science

Mathematics

Spanish

English

Students may plan their programs to extend their certification to include Environmental Education. They may also choose the 19-hour Coaching Endorsement Program.

#### Human Services

Rehabilitative Sciences (B.S.)

Rehabilitative Sciences: Gerontology\*

Rehabilitative Sciences: Substance Abuse\*

Rehabilitative Sciences: Developmentally Disabled\*

Rehabilitative Services (A.S.) - see Venango Campus

Speech Pathology and Audiology (B.S. 5-year program leading to the M.S. degree and certification grades K-12)

#### \*Academic Concentrations

The College of Education and Human Services offers programs to prepare professional educators and other human services personnel. Seven specialized curricula are offered in professional education: early childhood education, elementary education, library science, music education, secondary education, special education, and speech pathology and audiology. An additional



certification program is available in environmental education. Each teacher education curriculum is designed to meet the graduation requirements of the university, the certification requirements of the state, and the accreditation standards of various professional groups. In the human services field, programs are offered in rehabilitative sciences and speech and hearing science at the bachelor degree level, and in rehabilitative services at the associate degree level. All programs involve classroom, laboratory, and practicum experience.

## **Human Services**

Programs in the Human Services area provide students with the professional preparation to work with children, adolescents, and adults in institutional and community settings. Students in these programs are prepared to assist individuals who may experience a range of physical or mental handicaps. They develop their skills in classroom, clinical and field settings at the university and with cooperating agencies and institutions. Completion of their degree program should help students qualify for employment in a wide variety of roles based on the training they receive in the various Human Services programs within the college. Their responsibility will be to help persons acquire those competencies necessary for independent living.

## **Teacher Education**

### ***Role Statement***

In its teacher preparation program Clarion is committed to educating its students to play six important roles in the educational process.

First, the teacher serves as a model of the academic cultures. In this role the teacher is expected to be competent in standard English in both its written and oral forms; to be conversant with the major domains of knowledge as they are reflected in the humanities, the social sciences, and the natural sciences and mathematics; to be committed to scholarship and intelligence.

Second, the teacher serves as a resource for a school and community in a particular area of expertise. In this role the teacher is expected to display comprehensive and extensive knowledge in an area of specialization; to demonstrate ability to elaborate upon content, simplify material, and integrate knowledge; and to be sufficiently grounded in the basic concepts, principles, and methods of operation associated with that specialization to be able to pursue advanced study.

Third, the teacher serves as a facilitator of learning for his or her students. In this role the teacher is expected to establish both short and long-range goals for student teaching, to provide sound and effective learning experiences, to utilize a variety of assessment techniques, to establish a positive learning environment, to utilize available time and materials effectively, and to apply learning theory to classroom practices.

Fourth, the teacher serves as a facilitator of democratic attitudes. In this role the teacher is expected to respect students and individuals and to be accepting of them in their differences, to help them develop wholesome self-images, to support their creativity and originality, and to exhibit an awareness of and appreciation for the contribution that men and women from various racial and ethnic backgrounds have made to the human condition.

Fifth, the teacher serves as a professional educator. In this role the teacher is expected to serve as a responsible member of a school's professional staff, playing leadership and supportive roles as appropriate; to demonstrate high ethical standards in working with students, parents, and colleagues; to participate in the shaping of educational policies for the school and the teaching profession; and to be committed to continuing personal and professional development.

Sixth, the teacher serves as his or her own role definer. In this role the teacher is expected to identify, develop, and articulate his or her own truths about education, teaching and learning, schools, and the role that a teacher should play in the educational community.

## ***Certification***

Students who complete one of the teacher education curricula at Clarion and who are awarded a baccalaureate degree are qualified for the Pennsylvania Instructional I Certificate, valid for six years of teaching. Applications for the certificate must be made by the student and the certificate issued before graduates may teach in the public schools of Pennsylvania. **Since the recommendation for certification is based upon program requirements in effect when the application is filed, students are urged to do this during the semester in which they plan to graduate.** Applications are available in the Office of Field Services. Students should be aware that Act 24 of 1985 requires that prospective employees of public and private schools present evidence from the State Police or the Federal Bureau of Investigation that they have no criminal record.

Any certificate may be extended to include other teaching fields by completing approved programs in those areas. Students not enrolled in a program leading to a Bachelor of Science in Education degree can make application for teacher certification by obtaining admission to and completing one of the university's approved programs in teacher education. For further information, consult the Dean's office, College of Education and Human Services.

The Instructional I Certificate will be issued to individuals who fulfill the following:

1. Possess a baccalaureate degree.
2. Successfully complete an approved teacher certification program.
3. Present evidence of having passed the four (4) P.D.E. prescribed and administered teacher certification tests.
4. Receive recommendation for certification from the Dean, College of Education and Human Services.

## ***Teacher Education Selection and Retention Standards***

- I. Certification Requirements
  - A. Complete all program requirements of the Teacher Certification program at Clarion University.
  - B. Pass appropriate Pennsylvania Department of Education examinations in:
    1. General Education
    2. Content Area(s) of Certification
    3. Professional Education

#### 4. Basic Skills

\*C. Satisfy mental and physical qualifications as established by the Pennsylvania Department of Education.

\*Compliance with the Public School Code of 1949, as amended, Article XII, Section 1209, which in part provides that teaching certification may not be issued if the "applicant is either mentally or physically disqualified, by reason of tuberculosis or any other communicable disease or by reason of mental disorder from successful performance of the duties of a teacher."

D. Any academic, physical, or mental deficiencies, noted at any point in the student's program, that would prevent the candidate from fulfilling the responsibilities of the certification area, must be removed before admission to a teacher certification program. Deficiencies identified after admission to the certification program must be removed before the candidate may continue in the program.

### II. Certification Sequence

#### A. Admission to Teacher Certification Program Requirements:

1. Completion of 60 semester hours including 6-9 semester hours of introductory professional courses to be determined by the appropriate departmental faculty of the College of Education and Human Services. These introductory courses must be completed with a grade of C or better.
2. Basic skill competency in written expression, oral communication, and computation as evidenced by grades of C or better in ENG 111, SCT 113, ED 217, and a mathematics course numbered MATH 110 or higher. Accepted university proficiency examinations may be substituted for courses as specified in the catalog.
3. A minimum quality point average of 2.5 for all courses completed.
4. Pass a competency test of basic skills.

#### B. Admission to Student Teaching

1. Satisfactory standing in relation to all admission and retention requirements of the University and the College of Education and Human Services.
2. Completion of at least 90 semester hours of university credit.
3. Satisfactory completion of all required professional courses in the certification area. These courses must be completed with a grade of C or better.
4. A minimum cumulative quality point average of 2.5 for all course work.

#### C. Graduation Requirements

1. Fulfillment of all university standards for graduation.
2. A minimum grade of C in each student teaching experience.
3. A minimum cumulative quality point average of 2.5 for all course work.

### III. Procedures: Students are responsible for:

#### A. Seeing that application forms are completed for:

1. Admission to Teacher Certification
2. Admission to Student Teaching
3. Graduation from the University
4. Certification from the Commonwealth

B. Meeting with their advisors at each of these checkpoints for conferencing and to obtain the appropriate forms.

- C. Arranging for any tests needed to comply with the Public School Code of 1949, as amended, Article XII, Section 1209.
- IV. The College of Education and Human Services will, through a formal agreement with the Office of Special Services and the Educational Opportunities Program, identify disabled students for the purpose of advisement in relation to professional certification requirements.
  - A. The College Dean will notify each Department Chair/Program Director of all identified disabled students in the department.
  - B. The Department Chair/Program Director or representative must meet with each disabled student to discuss certification and professional requirements. The Department Chair/Program Director or designee will discuss these issues with regard to the student's disability and potential future difficulties in obtaining certification or practicing in the profession. This meeting will be documented, signed by the Department Chair/Program Director or designee and a copy of the report will be placed in the student's departmental file.
  - C. If faculty suspect that a student has a disability which may negatively affect the student's ability to obtain certification or practice in the profession, the student must be referred to Student Services for assistance.
  - D. All faculty will be made aware of the need to openly discuss professional/certification requirements with disabled students. Faculty must also be aware that all graduates of certification programs should be qualified to practice in the profession in a competent manner and that disabled students may or may not be able to meet certification requirements.
- V. Transfer Students

Each transfer student must follow the selection and retention standards of the College of Education and Human Services. Transcripts will be evaluated by the College Dean and any deficiencies will be noted. The transfer student and Dean will develop an individual plan to remove any deficiencies identified. Once deficiencies are removed, the student may be admitted to teacher certification.
- VI. Petitions Procedure

The faculty of the College of Education and Human Services recognizes that there may be times when special circumstances arise which may legitimately justify the waiver of certain policies and/or standards. Students who have failed to meet the policies and/or standards because of unusual and extenuating circumstances are permitted to file a petition with the College. Petition forms are available in the Office of the Dean. All petitions must be written, must be addressed to the Dean, and must be filed prior to the last five weeks of classes. The Dean will submit each petition to the College-Wide Petitions Committee for review and recommendation. The Committee will make a recommendation to the Dean based on a majority decision. The Dean will take this recommendation under advisement and contact the student in writing regarding the decision, with copies to the Petitions Committee and the student's academic advisor.

## ***Application Procedures for Student Teaching***

1. Read the conditions for assignments and qualifications for student teaching carefully.
2. Take this information and form entitled Application for Student Teaching to your advisor.
3. Complete ALL sections of the form with the advisor.
4. Return the completed Application for Student Teaching Form to the Director's Office.
5. Questions concerning assignment should be presented to the Director, Office of Field Services.

## ***Conditions for Assignment***

1. Applicants will not be allowed to enroll in any other coursework, except the professional seminar, while student teaching. The student teaching experience is a full-time professional responsibility that encompasses all the time and energy that the prospective candidate possesses.
2. Applicants will follow the UNIVERSITY CALENDAR for their entire assignment. (Exception: Fall semester student teachers will begin their assignments according to the public school calendar.)
3. Applicants will not be assigned to do student teaching in schools which they have formerly attended as grade or high school pupils, except under special conditions.
4. Applicants will be assigned to selected school clusters by the Office of Field Services.
5. Applicants' assignments will be for five days a week—for a full semester.
6. Applicants will be encouraged to reside in the community to which they are assigned. However, student teachers will be responsible for their own travel and rooming arrangements.
7. Tentative student teaching assignments for fall will be made before spring break; tentative student teaching assignments for spring will be made before Thanksgiving break.
8. Applicants will report any changes in status or plans to the Director, Office of Field Services, whenever they occur.
9. All qualifications must be fulfilled prior to the start of the student teaching.

## **Education**

### **Department of Education, Kathleen Smith, Ph.D., Chair**

**Professors:** Baldwin, Moorhouse, Perkins, J. Smith, Tate; **Associate Professors:** Battista, McLaughlin, K. Smith; **Assistant Professors:** Brown, Grejda, McKee, Stalker; **Instructor:** Sayre

The Education Department offers baccalaureate programs leading to certification in Elementary Education (K-6), and Early Childhood Education (N-3) and thirteen secondary certification areas (7-12). Each program of studies is composed of a common core of courses applicable to all certification areas and, according to the certification desired, a corresponding program of arts and sciences courses as well as sequence of professional courses and field experiences specific to the certification area. The Department also offers graduate programs in Elementary Education and Reading.

Dual certifications, requiring an additional semester, are available in selected areas. Among the more common dual certifications are: elementary education/special education, elementary education/early childhood education, elementary education/library science and various combinations of secondary certification areas. An endorsement to teach environmental education and an athletic coaching program area is also offered.

## Elementary Education

The content of the subject matter taught and the processes of teaching/learning are viewed as mutually dependent and supportive by the faculty at Clarion. Through a carefully planned sequence of courses and field experiences students are guided in combining knowledge and skills developed in the arts and sciences with professional competencies such as questioning techniques, lesson and unit planning, evaluating instructional materials, writing formal reports, classroom management and evaluation skills.

### Program Requirements

#### General Education

The elementary major should fulfill the general education distribution requirements noted on pages 65-66.

#### Professional Competency

The elementary education major is expected to show competency in the following content areas: biology, chemistry, computer science, earth science, economics, English composition, geography, linguistics, literature, mathematics, music, physics, political science, speech, and U.S. history.

#### PROFESSIONAL EDUCATION

The following courses are required of all elementary majors:

			s.h.
ART	190	Teaching Art in the Elementary Grades. . . . .	3
ECH	121	Child Development. . . . .	3
ED	110	Introduction to Education . . . . .	3
ED	224	Educational Evaluation . . . . .	3
ED	325	Multicultural Education. . . . .	3
ED	327	Basic Teaching Skills. . . . .	2
ED	227	Classroom Management . . . . .	3
ED	122	Educational Psychology . . . . .	3
ED	427	Exceptionalities in the Regular Classroom . . . . .	3
ELED	323	Teaching of Reading . . . . .	3
ELED	324	Teaching of Elementary School Mathematics . . . . .	3
ELED	325	Teaching of Elementary School Soc Studies . . . . .	1
ELED	326	Reading Problems in the Elementary School . . . . .	3
ELED	330	Communication Arts in the Elementary Sch . . . . .	2
ELED	331	Children's Literature. . . . .	3
ELED	424	Elementary Student Teaching . . . . .	12
HPE	223	Physical Education for Elementary Majors . . . . .	1
HPE	323	Modern Curriculum and Methods . . . . .	1
MUS	234	Basic Music Methods . . . . .	2
SCED	322	Teaching of Elementary Science . . . . .	3

NOTE: Students electing dual certification are required to take 6 semester hours of ELED 424: Elementary Student Teaching, and 6 semester hours of student teaching in the other area of certification.

**Academic Concentrations for  
Elementary Majors**

Elementary majors, who choose not to seek a second area of certification, must complete an advisor approved concentration of courses selected from: the humanities, the natural science, the social sciences and mathematics/computer science.

**Early Childhood Education**

The program has a broad-based theoretical approach which includes Bruner, Dewey, Erickson, Piaget, Rogers, Maslow, Montessori and Skinner. Education of the child is approached from a holistic perspective. Intellectual, social, emotional and psychomotor development are all considered essential to the learning process. Continuing opportunities are provided to students to plan, implement and evaluate learning experiences with young children two to eight years of age. The process enables future teachers to integrate the theoretical concepts of child development with the practical concerns of the classroom environment. The structure of the program requires the student to assess and develop personal and professional competencies through interaction with professionals in Early Childhood Education.

**Program Requirements**

**General Education**

To qualify for graduation, each student must satisfy the general distribution requirements noted on pages 65-66.

**Professional Education**

The following courses are required of all Early Childhood education majors:

s.h.

ECH	121	Child Development. . . . .	3
ECH	231	Creative Activities in Music and Art . . . . .	3
ECH	235	Classroom Participation and Assessment . . . . .	3
ECH	323	Early Childhood Communication Processes . . . . .	3
ECH	324	Mathematics Learning Experiences for Early Childhood . . . . .	3
ECH	333	Developmental Programs for Infants and Toddlers. . . . .	3
ECH	334	Early Childhood Supervision . . . . .	3
ECH	335	Early Childhood Curriculum. . . . .	3
ECH	401	Creative Response to Conflict. . . . .	3
ECH	420	Incidental Learning. . . . .	3
ECH	424	Early Childhood Student Teaching . . . . .	12
ED	110	Introduction to Education . . . . .	3
ED	224	Educational Evaluation . . . . .	3
ED	325	Multicultural Education. . . . .	1
ED	327	Basic Teaching Skills. . . . .	2
ED	122	Educational Psychology . . . . .	3
ED	427	Exceptionalities in the Regular Classroom . . . . .	3

ELED	330	Communication Arts in the Elem School. . . . .	2
ELED	331	Children's Literature. . . . .	3
HPE	410	Psychomotor Development in Early Childhood . . . . .	3
SCED	322	Teaching of Elementary Science . . . . .	3

In addition Early Childhood majors must take 10 credits of electives approved by the advisor.

## Environmental Education

Sponsored by an interdisciplinary committee, the curriculum in environmental education, open only to students who are enrolled in or have completed a teacher education program, leads to an endorsement on any instructional certificate and prepares teacher-educators to develop and implement in-school and outdoor environmental education programs in both elementary and secondary schools. Since the program is competency based, the total semester hours needed to complete it will depend upon the student, his or her major field of study, and outside work experience. Students applying for admission in their freshman year may normally expect to complete the program within the usual number of hours required for graduation.

Graduate students in some areas may also complete as part of Master's program an endorsement to their instructional certificate in Environmental Education by selecting appropriate courses under advisement.

Application for admission to the program is through the Chairman of the Environmental Education Committee.

### REQUIRED COURSES

			c.h.	s.h.
ENVR	401	Environmental Problems in Society . . . . .	3	3
GEOG	254	Conservation of Natural Resources . . . . .	3	3
ED	401	Methods in Environmental Education . . . . .	3	3
ELED or				
ED	424	Student Teaching . . . . .	Variable Credit	

### REQUIRED AREAS OF STUDY

In addition to the courses listed above, students need additional experiences and competencies in field studies, nature oriented studies, and people oriented studies to further their understanding of the relationships between human institutions and value systems and their supporting environment. A listing of courses appropriate to these areas can be obtained from the Dean, College of Education and Human Services.

## Health and Physical Education

**Department of Health and Physical Education, Albert A. Jacks, Jr., M.Ed., Chair**

**Professors:** Bubb, Lignelli, Taylor; **Associate Professors:** Baschnagel, Jacks, D. Leas, Leonard, Pae, Ruslavage, Sobolewski; **Assistant Professors:** Carlson, Davis, English, R. Leas, Truitt- Bean; **Instructors:** Dreesse, Opalski

Through its general education courses and intramural program, the department provides students with extensive opportunities to develop sound health habits and life-long skills in a variety of sports and other physical



activities. Although the department does not offer any programs leading to the bachelor's degree, it does offer an athletic coaching program.

#### ACTIVITY AND RECREATION COURSES

HPE	131	Beginning Swimming . . . . .	1
HPE	135	Aqua-Aerobics . . . . .	1
HPE	141	Badminton . . . . .	1
HPE	142	Bowling . . . . .	1
HPE	143	Golf . . . . .	1
HPE	144	Handball and Racquetball (men's rules) . . . . .	1
HPE	145	Racquetball (women's rules) . . . . .	1
HPE	147	Beginning Tennis . . . . .	1
HPE	148	Wrestling . . . . .	1
HPE	150	Canoeing . . . . .	1
HPE	161	Basketball (men's rules) . . . . .	1
HPE	162	Basketball (women's rules) . . . . .	1
HPE	163	Volleyball (men's rules) . . . . .	1
HPE	164	Volleyball (women's rules) . . . . .	1
HPE	171	Modern Dance . . . . .	1
HPE	173	Aerobic Dancing I . . . . .	1
HPE	181	Adapted Physical Education . . . . .	1
HPE	182	Posture and Body Mechanics . . . . .	1
HPE	185	Physical Fitness and Conditioning . . . . .	1
HPE	186	Physical Fitness Through Weight Lifting . . . . .	1
HPE	191	Camping Outdoor Recreation . . . . .	2
HPE	230	Senior Life Saving . . . . .	1
HPE	231	Intermediate Swimming . . . . .	1
HPE	233	Springboard Diving . . . . .	1
HPE	247	Intermediate Tennis . . . . .	1
HPE	273	Aerobic Dancing II . . . . .	1
HPE	285	Intermediate Physical Fitness . . . . .	1
HPE	330	Water Safety Instructor . . . . .	1

#### HEALTH AND FIRST AID COURSES

HPE	111	Health Education . . . . .	2
HPE	314	Cardio Pulmonary Resuscitation . . . . .	1
HPE	317	First Aid and Safety . . . . .	2
HPE	333	Fitness for Wellness . . . . .	3
HPE	334	Food, Fitness and Weight Management . . . . .	3

#### ELEMENTARY MAJOR COURSES

HPE	223	Physical Education for Elementary Majors . . . . .	1
HPE	323	Modern Curriculum and Methods in Elementary Physical Education . . . . .	1
HPE	326	Adapted Physical Education for the Elementary School . . . . .	3
HPE	410	Psychomotor Development in Early Childhood Rationale and Integrated Activities . . . . .	3

## ***Athletic Coaching Program (19 semester hours)***

The Athletic Coaching Program\* is established for those who intend to coach in interschool athletic programs but do not have a degree in physical education. Students who complete the Athletic Coaching Program successfully are issued a letter of verification.

The program is designed for all students. Non-Education Majors have found the program to be an excellent alternative to their areas of concentration. Any student with an interest in any related future field in fitness, athletics, health, physiology, health clubs and equipment will find the program an additional dimension to their undergraduate major.

The minimum requirement for this program is 19 credit hours. The following 13 credits are required Coaching courses:

HPE	314	Cardio Pulmonary Resuscitation . . . . .	1
HPE	406	Athletic Injuries . . . . .	3
HPE	407	Physiological Foundations of Coaching . . . . .	3
HPE	408	Principles and Problems of Athletic Coaching . . . . .	3
HPE	409	Kinesiological Foundations of Coaching . . . . .	3

The other six credit hours may be selected from the following Theory and Technique of Coaching courses:

HPE	343	Theory and Technique of Coaching Golf . . . . .	1
HPE	344	Theory and Technique of Coaching Track & Field . . . . .	2
HPE	345	Theory and Technique of Coaching Swimming . . . . .	2
HPE	346	Theory and Technique of Coaching Gymnastics . . . . .	2
HPE	347	Theory and Technique of Coaching Tennis . . . . .	1
HPE	348	Theory and Technique of Coaching Wrestling . . . . .	2
HPE	351	Theory and Technique of Coaching Basketball . . . . .	2
HPE	352	Theory and Technique of Coaching Baseball . . . . .	2
HPE	353	Theory and Technique of Coaching Volleyball . . . . .	2
HPE	354	Theory and Technique of Coaching Football . . . . .	2

\*Not a Public School Certification field.

### **ACTIVE MILITARY SERVICE**

The university grants a maximum of 4 credits in HPE for active military service of 6 months or more with honorable discharge or continued reserve status. Credit is normally given for HPE 111 (2 credits) and 2 HPE activity courses of 1 credit each. To assure that the credit is granted, students should bring an honorable discharge document to the Dean of Enrollment Management and Academic Records in Carlson Hall.

## **Library Science**

Information of certification as a school librarian in Pennsylvania is included under the College of Library Science. See pages 134-136.

## **Music Education**

The curriculum for majors in music education at Clarion, leading to the degree Bachelor of Science in Education Degree in Music Education, combines a broad requirement in general education with advanced study in theory, history and literature of music, applied music, specialized courses in music education, and

participation in performing organizations. The emphasis of the program is two-fold.

- A. The achievement of significant musical understanding and ability: **Musicianship.**
- B. The development of skills and techniques necessary for the effective communication of music understanding and ability to others: **Teaching Ability.**

The purpose of this program is to prepare prospective public school teachers specializing in music education, with certification in all of the following areas:

- A. Elementary music education, from kindergarten through the sixth grade, vocal and instrumental.
- B. Junior high school music programs, including general music, instrumental and vocal classes.
- C. Secondary school music programs, including all vocal and instrumental activities, general music, and elective academic courses.

## Program Requirements

### General Education

The general education distribution for all students in the college is presented on pages 65-66. Teacher Education Selection and Retention Standards are listed on pages 106-109.

### Professional Education

			s. h.
ED	110	Intro. to Education . . . . .	3
ED	322	Educational Psychology . . . . .	3
ED	427	Exceptionalities in the Regular Classroom . . . . .	3
MUS	333	Elementary Music Methods . . . . .	3
MUS	334	Junior High and Secondary Music Methods . . . . .	3
MUS	362	Instrumental Methods . . . . .	2
MUS	363	Vocal Methods . . . . .	2
ED	432	Student Teaching . . . . .	12
Total . . . . .			31

### AREA OF SPECIALIZATION

MUS	135	Theory of Music I . . . . .	4
MUS	136	Theory of Music II . . . . .	4
MUS	235	Theory of Music III . . . . .	4
MUS	236	Theory of Music IV . . . . .	4
MUS	151	History & Literature of Music I . . . . .	3
MUS	152	History & Literature of Music II . . . . .	3
MUS	251	History & Literature of Music III . . . . .	3
MUS	252	History & Literature of Music IV . . . . .	3
MUS	365	Conducting I . . . . .	2
MUS	366	Conducting II . . . . .	2
MUS	367	Orchestration . . . . .	2

### KEYBOARD AND VOICE PROFICIENCY

PIANO (required of all but piano majors\*)

MUS	160	Piano Class I . . . . .	1
MUS	161	Piano Class II . . . . .	1
MUS	171	Piano . . . . .	1

VOICE (required of all but voice majors\*)

MUS	162	Voice Class I	1
MUS	163	Voice Class II	1

\*Students whose applied area is Voice or Piano will substitute an approved music elective (3 credits).

### PIANO COMPETENCY TEST

The Piano Competency Test is required of all music education majors in order to qualify for student teaching. Students are expected to complete the requirements and take the competency test by the end of the sophomore year in order to qualify for the admission into the teacher certification program and also to pursue the student teaching experience.

INSTRUMENTAL TECHNIQUES . . . . . Minimum of 5

One course for each family of instruments is required.

MUS	280	I: Violin, Viola
MUS	281	II: Cello, String Bass
MUS	282	III: Flute, Oboe, Saxophone
MUS	283	IV: Clarinet, Bassoon
MUS	284	V: Trumpet, French Horn
MUS	285	VI: Trombone, Baritone Horn, Tuba
MUS	286	VII: Percussion

APPLIED FIELD OF PERFORMANCE . . . . . 7

Instrument—(MUS 164, 165, 166, 167, 168, 169 or 170): Piano (MUS 171):

Voice (MUS 172): Organ (MUS 173)

### PERFORMING ORGANIZATIONS

Seven semesters of participation is required. Option 1 credit per semester may be counted toward graduation. No more than 8 credits can be counted toward graduation requirements.

Total credits in specialization sequence. . . . . 51-52

### ATTENDANCE AT RECITALS

Students pursuing degree programs are required to attend the biweekly student recital series for seven to eight semesters as an extension of their curricular and performance activities. Election of MUS 300, section 01 satisfies this requirement. All students are strongly encouraged to perform.

### JUNIOR/SENIOR RECITAL

For students in the B.S. in Education Degree in Music Education program, a junior or senior recital is optional. Students wishing to perform a junior or senior recital must audition in the spring semester preceding the academic year in which the recital is to be scheduled. Students who successfully complete the audition process should elect MUS 300, sections 01 and either section 02 for a Junior Recital or Section 03 for a Senior Recital.

### APPLIED MUSIC CREDITS

All matriculated music majors must elect applied music credits on instrument/voice in residence. For more information see Music Department Chair.

## Typical Program in Music Education

Sample four-year curriculum for students whose field of performance is instrumental. The curriculum for students whose field of performance is piano or voice is similar. *MUS 300, section 1—Recitals should be elected for each semester.*

**1ST SEMESTER: 17 or 18 s.h.**

	Gen. Ed. requirements	MUS	135	Theory of Music I . . . . .	4	s.h.
	or Electives . . . . .	9		Applied Music. . . . .	1	
		9	MUS	160	*Piano Class I . . . . .	1
					*Voice Class I . . . . .	1
					**Inst. Tech. . . . .	1
					***Performing Org. .0-1	
						8-9

**2ND SEMESTER: 18 s.h.**

	Gen. Ed. requirements	MUS	136	Theory of Music II . . . . .	4	
	or Electives . . . . .	9		Applied Music. . . . .	1	
HPE	Physical Education . . . . .	1	MUS	161	*Piano Class II . . . . .	1
		10			*Voice Class II . . . . .	1
					**Inst. Tech. . . . .	1
					***Performing Org. . . .0	
						8

**3RD SEMESTER: 17 or 18 s.h.**

	Gen. Ed. requirements	MUS	235	Theory of Music III. . . . .	4	
	or Electives . . . . .	6	MUS	151	His. & Lit. of Mus.I . . . . .	3
HPE	Physical Education . . . . .	1			Applied Music. . . . .	1
		7			*Piano . . . . .	1
					**Inst. Tech. . . . .	1
					***Performing Org. .0-1	
						10-11

**4TH SEMESTER: 17 or 18 s.h.**

	Gen. Ed. requirements	MUS	236	Theory of Music IV. . . . .	4	
	or Electives . . . . .	3	MUS	152	His. & Lit. of Mus.II . . . . .	3
ED	110 Intro. to Education. . . . .	3			Applied Music. . . . .	1
HPE	Health Education . . . . .	2			**Inst. Tech. . . . .	1
		8			***Performing Org. .0-1	
						9-10

**5TH SEMESTER: 17 or 18 s.h.**

	Gen. Ed. requirements	MUS	251	His.& Lit. of Mus.III . . . . .	3	
	or Electives . . . . .	2	MUS	365	Conducting I . . . . .	2
ED	322 Education Psychology . . . . .	3			Applied Music. . . . .	1
MUS	333 Elem. Mus. Methods . . . . .	3	MUS	162	**Inst. Tech. . . . .	1
MUS	363 Vocal Methods . . . . .	2			***Performing Org. .0-1	
		10				8

**6TH SEMESTER: 17 or 18 s.h.**

	Gen. Ed. requirements	MUS	252	His.& Lit. of Mus. IV. . . . .	3	
	or Electives . . . . .	3	MUS	366	Conducting II . . . . .	2
ED	427 Except. in Reg. Clsrn. . . . .	3			Applied Music. . . . .	1
MUS	334 Jr. High & Sec. Mus. . . . .	3	MUS	163	***Performing Org. .0-1	
	Methods . . . . .	3				7
MUS	362 Inst. Methods . . . . .	2				
		11				

**7TH SEMESTER (or 8TH): 15 or 16 s.h.**

Gen. Ed. requirements	MUS 367	Orchestration . . . . .	2
or Electives . . . . .	12	Applied Music . . . . .	1
		***Performing Org. .	0-1
			3-4

**8TH SEMESTER (or 7TH): 12 s.h.**

ED 432	Student Teaching . . .	12
		12

Total credits required for graduation: 130-131

\*Students whose applied field of performance is Voice or Piano will substitute an approved music elective.

\*\*Five out of seven Instrumental Techniques (MUS 280-286) are the minimum requirement. Each family of Instruments must be represented in the selection of Instrumental Techniques.

\*\*\*Participation is required; however, a student may elect a performing organization for 1 credit or no credit. No more than 8 credits can be counted toward the graduation requirement.

## Nursing

Information of certification as a school nurse in Pennsylvania is included under the School of Nursing (see page 153.)

## Secondary Education

Baccalaureate programs leading to certification in secondary education (7-12) are available in biology, chemistry, communication arts, earth and space science, English, French, general science, German, mathematics, physics, Russian, social studies, and Spanish. Each program is designed to provide students with a thorough foundation in the teaching specialty and with the professional skills needed to work effectively with adolescents in a variety of learning environments.

### Program Requirements

#### General Education

Secondary education students fulfill the general education requirements by following the distribution noted on pages 65-66. However, within certain majors there may be slight deviations from the pattern presented and secondary students should check with the departmental office of the discipline in which they are majoring to ascertain any variations.

Professional Education Requirements

ED	110	Introduction to Education	3
ED	122	Educational Psychology	3
ED	224	Educational Evaluation	3
ED	325	Multi-Cultural Education	1
ED	327	Basic Teaching Skills	2
ED	227	Classroom Management	3
ED	333	Teaching Reading in the Secondary Content Areas	3
ED	427	Exceptionalities in Regular Classroom	3
SEC.ED.	XXX	Methods in	3
SEC.ED.	424	Secondary Student Teaching	12

Secondary Certification Specialization

Secondary Education majors may choose areas of specialization from the following programs. Curriculum requirements are noted for each area of specialization.

*Biology (50 Semester Hours)*

Required

			c.h.	s.h.
BIOL	153	Introductory Animal Biology	6	4
BIOL	154	Introductory Plant Biology	6	4
BIOL	201	Genetics	5	3
BIOL	202	Principles of Ecology	5	3
BIOL	203	Cell Biology	5	3
CHEM	153	General Chemistry I	6	4
CHEM	154	General Chemistry II	6	4
CHEM	254	Introductory Organic Chemistry	6	4
ED	332	Science Methods	3	3
MATH	171	Precalculus	4	4
PH	251	General Physics I	6	4
PH	252	General Physics II	6	4

Electives (three required)

Courses taken as biology electives will be approved by the student's advisor prior to registration.

In meeting general education requirements (see pages 65-66), the distribution in Natural Sciences and Mathematics may be met with supplemental courses from the field of specialization. Students should note that no more than one non-laboratory elective may be included in credits for the major.

*Chemistry (30 Semester Hours)*

Required

			c.h.	s.h.
CHEM	151	Chemical Principles I	4	4
*CHEM	161	Chemical Principles Lab I	3	1
CHEM	152	Chemical Principles II	4	4

*CHEM	162	Chemical Principles Lab II . . . . .	3	1
CHEM	251	Organic Chemistry . . . . .	3	3
*CHEM	261	Organic Chemistry Lab II . . . . .	3	1
CHEM	252	Organic Chemistry II . . . . .	3	3
CHEM	257	Spectroscopic Identification of Organic Compounds . . . . .	3	2
*CHEM	262	Organic Chemistry Lab II . . . . .	3	1
		Electives numbered 300 or above . . . . .		9
CHEM	270	Chemical Information . . . . .	1	1

\*These laboratories must be taken concurrently with the lecture course.

### Electives (four required)

Courses taken as chemistry electives will be approved by the student's advisor prior to registration.

### Additional Requirements

MATH	270	Calculus with Analytical Geometry I . . . . .	4	4
MATH	271	Calculus with Analytical Geometry II . . . . . and either	4	4
PH	251	General Physics I . . . . .	6	4
PH	252	General Physics II . . . . . or	6	4
PH	258	Introductory Physics Lecture I . . . . .	5	4
PH	268	Introductory Physics Laboratory I . . . . .	3	1
PH	259	Introductory Physics Lecture II . . . . .	5	4
PH	269	Introductory Physics Laboratory II . . . . .	3	1

Students who have taken CHEM 153 and 154 may be permitted, upon consideration of their performance, to substitute these courses for CHEM 151 and 152. A total of 30 semester hours in chemistry must be taken.

### *Communication Arts (42 Semester Hours)*

The Communication Arts program represents a new concept in the preparation of prospective teachers of communication-related subjects. It is designed to equip the teacher with the ability to help students make meaning out of their experience through the uses of language and all those behaviors, verbal and nonverbal, associated with the uses of language. Candidates may develop a program that meets their special needs and interests as potential teachers of English, speech, drama, and other communication subjects. Successful completion of the program leads to the communication certification.

### Required (18 credits)

ENG	200	Composition and Literature
ENG	221	or 222 English Literature Survey
ENG	252	Intro. to the English Language
SCT	200	Interpersonal Communication Theory
SCT	155	Introductory Interpretation or
SCT	253	Introduction to the Theatre
SCT	251	Voice and Articulation



**Concentration (24 credits)**

24 hours in either literature or speech; or 12 hours in each of two: speech, theatre, composition, literature, media, or linguistics.

**Electives (2 credits)**

Courses taken as communication arts electives will be approved by the student's advisor prior to registration.

***Earth Science (44 Semester Hours)*****Required**

			c.h.	s.h.
ES	150	Physical Geology . . . . .	3	3
ES	200	Solar Astronomy . . . . .	3	3
ES	250	Historical Geology . . . . .	3	3
ES	270	Oceanography . . . . .	3	3
ES	280	Meteorology . . . . .	3	3
GEOG	125	Map Interpretation. . . . .	3	3
BIOL	153	Introductory Animal Biology . . . . .	6	4
		or		
BIOL	154	Introductory Plant Biology . . . . .	6	4
CHEM	153	General Chemistry I . . . . .	3	3
CHEM	163	General Chemistry Lab I . . . . .	3	1
CHEM	154	General Chemistry II . . . . .	3	3
CHEM	164	General Chemistry Lab II . . . . .	3	1
PH	251	General Physics I . . . . .	6	4
PH	252	General Physics II . . . . .	6	4

**Electives**

Courses taken as earth and space electives will be approved by the student's advisor prior to registration.

In satisfying the general education distribution, pages 65-66, it is required that Earth and Space majors schedule MATH 171.

For a concentration in geology, students should elect courses from:

ES	255: Landforms	ES	360: Mineralogy (Minerals)
ES	260: Environmental Geology	ES	370: Petrology (Rocks)
ES	350: Structural Geology	ES	375: Sedimentation and Stratigraphy
ES	355: Invertebrate Paleontology		

For a concentration in astronomy-planetarium operation, students will elect the following:

ES	201: Stellar Astronomy	COOP	306: Internship Planetarium
SCED	485: Planetarium Operation & Management	COMM	251: Introduction to Images

For a broad field of Earth Science, select any course with an ES number except ES 111.

## *English (45 Semester Hours)*

### Required (27 credit hours)

			c.h.	s.h.
ENG	200	Composition and Literature . . . . .	3	3
		or		
ENG	201	Advanced Composition . . . . .	3	3
ENG	482	Composition: Theory and Practice . . . . .	3	3
ENG	252	Intro. to the English Language . . . . .	3	3
ENG	457	Intro. to Linguistics . . . . .	3	3
ENG	221	English Literature: Beginning to 1800 . . . . .	3	3
ENG	222	English Literature: 1800 to the Present . . . . .	3	3
ENG	225	American Literature Beginning to 1860 . . . . .	3	3
ENG	226	American Literature from 1860 to the Present . . . . .	3	3
ENG	370	Literature for Young Adults . . . . .	3	3

### Electives (18 credit hours)

Suggested Writing Electives (select 1): 3    3

ENG 200/201, ENG 202, ENG 203, ENG 204, ENG 206, ENG 306

Suggested Language Electives (select 1): 3    3

ENG 253, ENG 458

Literature Electives (12 Hours—Nine of which must  
be taken on the 300/400 course levels) 12    12

## *French (42 Semester Hours)*

### Required

			c.h.	s.h.
ENG	252	Introduction to the English Language . . . . .	3	3
SCT	312	General Semantics . . . . .	3	3
*FR	250	Intensive Intermediate French (III and IV). . . . .	6	6
*FR	251	Intermediate French I . . . . .	3	3
*FR	252	Intermediate French II. . . . .	3	3

\*May be omitted upon demonstration of proficiency at second year level.

FR	255	French Civilization I . . . . .	3	3
FR	256	French Civilization II. . . . .	3	3
FR	260	The French Short Story . . . . .	3	3
FR	265	Intermediate Conversation . . . . .	3	3
FR	351	Advanced Grammar & Composition . . . . .	3	3
FR	354	Development of the French Novel. . . . .	3	3

### Electives

FR	253	Commercial French . . . . .	3	3
FR	353	Development of the French Drama . . . . .	3	3
FR	356	Development of French Poetry . . . . .	3	3
FR	358	French Thinkers. . . . .	3	3
FR	360	French Canadian Writers . . . . .	3	3

FR	361	Black Writers in French Literature . . . . .	3	3
FR	451	Supervised Readings in French Literature . . . . .	3	3

*\*As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may only receive three (3) credits for them, i.e., the three (3) credits they would normally receive for a 152 or 252 course.*

A minimum of 6 s.h. must be taken in courses numbered 352 or above.

Students participating in foreign study programs must complete at least six hours of French literature at Clarion, regardless of the number of credits earned abroad.

## ***General Science (42 Semester Hours)***

A program specifically designed to prepare students to teach science at the junior high or middle school level. General Science majors are not prepared to teach specialized high school courses such as biology, chemistry, physics, or earth science. Likewise, biology, chemistry, or physics majors are not prepared to teach General Science unless their college program is broadened to include all of the required science courses of the General Science curriculum. Students who desire to teach only specialized courses should major in the specific subject area.

### **Required**

			c.h.	s.h.
BIOL	153	Introductory Animal Biology . . . . .	6	4
BIOL	154	Introductory Plant Biology . . . . .	6	4
BIOL	202	Principles of Ecology . . . . .	5	3
CHEM	153	General Chemistry I . . . . .	6	3
CHEM	163	General Chemistry Laboratory I . . . . .	3	1
CHEM	154	General Chemistry II . . . . .	6	3
CHEM	164	General Chemistry Laboratory II . . . . .	3	1
*PH	251	General Physics I . . . . .	6	4
*PH	252	General Physics II . . . . .	6	4
ES	150	Physical Geology . . . . .	3	3
ES	280	Meteorology . . . . .	3	3
ES	200	Solar Astronomy . . . . .	3	3
ES	270	Oceanography . . . . .	3	3

\*MATH 171 is a prerequisite.

Majors in General Science should not include BIOL 111, MATH 112, PHSC 111 and 112, and ES 111 in their general education programs (see pages 65-66).

One additional 3 credit science course will be needed to give a minimum of 42 credits. The course may be elected from the following fields; biology, chemistry, earth science, or physics.

Additional requirements include successful completion of SCED 460: Science Curriculum in the Middle and Junior High School and either a course or proficiency in mathematical statistics.

Since General Science is an interdisciplinary major, students must maintain a quality point average of 2.00 in each of the following fields: physics, chemistry, biology, and earth science.

A biology, chemistry, physics or earth science major will be recommended for an Instructional I certificate in General Science only upon satisfactorily completion of all basic courses in the General Science curriculum.

### ***German (42 Semester Hours)***

#### **Required**

			c.h.	s.h.
ENG	252	Introduction to the English Language . . . . .	3	3
SCT	312	General Semantics . . . . .	3	3
*GER	250	Intensive Intermediate German (III and IV) . . . . .	6	6
**GER	251	Intermediate German I . . . . .	3	3
**GER	252	Intermediate German II . . . . .	3	3
GER	255	Germanic Civilization I . . . . .	3	3
GER	256	Germanic Civilization II . . . . .	3	3
GER	351	Advanced Grammar & Composition . . . . .	3	3

\*\*May be omitted upon demonstration of proficiency at second year level.

#### **Electives**

GER	253	Scientific German . . . . .	3	3
GER	254	Commercial German . . . . .	3	3
GER	260	The German Short Story . . . . .	3	3
GER	265	Intermediate Conversation . . . . .	3	3
GER	352	Survey of German Literature through the Classical Age. . . . .	3	3
GER	353	The Modern German Drama . . . . .	3	3
GER	355	German Romanticism . . . . .	3	3
GER	358	Classical German Literature: Goethe, Schiller & Lessing. . . . .	3	3
GER	361	German Lyric Poetry . . . . .	3	3
GER	451	Supervised Readings in German Literature . . . . .	3	3

*\*As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may only receive three (3) credits for them, i.e., the three (3) credits they would normally receive for a 152 or 252 course.*

A minimum of 6 s.h. must be taken in courses numbered 352 or above.

Students participating in foreign study programs must complete at least six hours of German literature at Clarion, regardless of the number of credits earned abroad.

### ***Mathematics (34 Semester Hours)***

#### **Required**

			c.h.	s.h.
MATH	270	Calculus with Analytic Geometry I . . . . .	4	4
MATH	271	Calculus with Analytic Geometry II . . . . .	4	4
MATH	272	Calculus with Analytic Geometry III . . . . .	4	4

MATH	300	An Introduction to Advanced Mathematics . . . . .	3	3
MATH	321	Introductory Mathematical Statistics . . . . .	3	3
MATH	357	Modern Geometry . . . . .	3	3
MATH	370	Linear Algebra . . . . .	3	3
MATH	451	Modern Algebra I . . . . .	3	3
MATH	49	Seminar . . . . .	1	1

### Electives (Six credits)

Courses taken as mathematics electives will be approved by the student's advisor prior to registration.

Majors should select PH 258 and/or CHEM 151 or 153 instead of Basic PHSC 111-112. PHSC 111-112 do not count toward graduation.

Concurrent certification in Physics is possible with the election of PH 258, 268, 259, 269, 351, 352, 353, 354 and 370-I and 370-II or 455. Students admitted into both programs should substitute ED 335 for 324.

### *Physics (27 Semester Hours)*

#### Required

			c.h.	s.h.
PH	258	Introductory Physics Lecture I . . . . .	5	4
PH	268	Introductory Physics Laboratory I . . . . .	3	1
PH	259	Introductory Physics Lecture II . . . . .	5	4
PH	269	Introductory Physics Laboratory II . . . . .	3	1
PH	351	Mechanics: Dynamics . . . . .	3	3
*PH	352	Electricity and Magnetism . . . . .	3	3
PH	353	Modern Physics I . . . . .	3	3
PH	354	Optics . . . . .	3	3
PH	371	Experimental Physics I . . . . .	4	3
**PH	372	Experimental Physics II . . . . .	3	2

#### Additional Requirements

CHEM	153	General Chemistry I . . . . .	3	3
CHEM	163	General Chemistry Laboratory I . . . . .	3	1
CHEM	154	General Chemistry II . . . . .	3	3
CHEM	164	General Chemistry Laboratory II . . . . .	3	1
MATH	270	Calculus With Analytic Geometry I . . . . .	4	4
MATH	271	Calculus With Analytic Geometry II . . . . .	4	4
MATH	272	Calculus With Analytic Geometry III . . . . .	4	4
MATH	350	Ordinary Differential Equations . . . . .	3	3

Students must demonstrate a proficiency in a biology course.

\*PH 455 may be taken instead of PH 352.

\*\*PH 456 or 457 may be taken instead of PH 372.

## ***Russian (42 Semester Hours)***

### **Required**

			c.h.	s.h.
ENG	252	Introduction to the English Language . . . . .	3	3
SCT	312	General Semantics . . . . .	3	3
RUSS	251	Intermediate Russian I . . . . .	3	3
RUSS	252	Intermediate Russian II . . . . .	3	3
RUSS	255	Russian Civilization I . . . . .	3	3
RUSS	256	Russian Civilization II . . . . .	3	3
RUSS	265	Intermediate Conversation . . . . .	3	3
RUSS	351	Advanced Grammar & Composition . . . . .	3	3
RUSS	352	Introduction to Russian Literature . . . . .	3	3
RUSS	354	The Russian Novel . . . . .	3	3
RUSS	355	Readings in Soviet & Russian Literature . . . . .	3	3
RUSS	451	Supervised Readings in Russian . . . . .	3	3

### **Electives**

RUSS	253	Scientific Russian . . . . .	3	3
RUSS	353	The Russian Drama . . . . .	3	3
RUSS	361	Dostoevsky . . . . .	3	3

A minimum of 6 s.h. must be taken in courses numbered 352 or above.

Students participating in Russian studies during summer in the USSR or Europe must have 2 years of Russian and at least one course in Russian Literature and Culture.

## ***Social Studies (45 Semester Hours)***

### **Social Studies Specialization**

Selection must include courses in all seven of the following fields: anthropology, economics, geography, history, political science, psychology, and sociology.

### **Required Components**

	s.h.
American Culture . . . . .	6
Behavioral Sciences . . . . .	9
Economics . . . . .	3
World Culture . . . . .	6
Social Science Electives . . . . .	3

A list of courses satisfying the above requirements may be obtained from the coordinator of the Social Studies program.

### **Discipline Concentration**

Students must choose 18 hours of course work in one area: anthropology, economics, geography, history, political science, or sociology. Specific course listings may be located under the respective department. With authorization of

the Social Studies coordinator, students can develop a behavioral science concentration.

ANTHROPOLOGY

ANTH 213, 214, 250, 251, 253, 354, 356, 357, 358, 359, 361, 362, 400, 401, 402.

ECONOMICS

ECON 310, 311, 312, 340, 341, 351, 361, 370, 371, 410, 453, 470, 490.

GEOGRAPHY

GEOG 115, 125, 225, 250, 255, 258, 260, 265, 275, 300, 325, 385, 400, 450.

HISTORY

HIST 110, 111, 112, 113, 120, 121, 130, 131, 150, 215, 216, 230, 254, 255, 256, 260, 275, 277, 286, 299, 300, 315, 320, 330, 345, 350, 351, 352, 353, 354, 357, 358, 359, 360, 361, 362, 366, 368, 370, 380, 385, 398, 410, 420, 452.

POLITICAL SCIENCE

PS 210, 351, 352, 353, 354, 355, 365, 366, 375, 451, 452, 458.

PSYCHOLOGY

PSY 225, 230, 251, 260, 331, 340, 350, 354, 360, 452, 454, 455, 456, 458, 459, 464.

SOCIOLOGY

SOC 300, 310, 321, 340, 351, 352, 353, 361, 362, 363, 370, 380, 395, 400, 499; SW 311, 312.

*Spanish (42 Semester Hours)*

Required

			c.h.	s.h.
ENG	252	Introduction to the English Language . . . . .	3	3
SCT	312	General Semantics . . . . .	3	3
*SPAN	250	Intensive Intermediate Spanish (III & IV). . . . .	6	6
*SPAN	251	Intermediate Spanish I . . . . .	3	3
*SPAN	252	Intermediate Spanish II . . . . .	3	3
SPAN	255	Hispanic Civilization I . . . . .	3	3
SPAN	256	Hispanic Civilization II . . . . .	3	3
SPAN	265	Intermediate Conversation . . . . .	3	3
SPAN	351	Advanced Grammar & Composition . . . . .	3	3
SPAN	352	Introduction to Spanish Literature. . . . .	3	3
SPAN	360	Survey of Spanish American Literature . . . . .	3	3

\*May be omitted upon demonstration of proficiency at second year level.

Electives

SPAN	253	Commercial Spanish . . . . .	3	3
SPAN	260	The Hispanic Short Story. . . . .	3	3
SPAN	353	The Modern Spanish Drama. . . . .	3	3
SPAN	354	The Modern Spanish Novel . . . . .	3	3
SPAN	355	The "Generation of 1898" . . . . .	3	3
SPAN	451	Supervised Readings in Hispanic Literature . . . . .	3	3

*\*As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250*

*courses. If students in this situation do decide to take these courses, however, they may only receive three (3) credits for them, i.e., the three (3) credits they would normally receive for a 152 or 252 course.*

A minimum of 6 s.h. must be taken in courses numbered 352 or above.

Students participating in foreign study programs must complete at least six hours of Spanish or Spanish-American literature at Clarion, regardless of the number of credits earned abroad.

## Special Education

**Department of Special Education, Bryan Huwar, Ph.D., Chair**

**Professors:** Huwar, Shirey; **Associate Professors:** Dunkle, Gurecka; **Assistant Professors:** Davis, Gent, Krouse

The Special Education program has identified specific professional competencies regarded as essential for performance as a diagnostic prescriptive teacher of children who have special needs.

Human relations skills training is presented through a series of sensitizing exercises which focus upon fundamental social interactions among teachers, students, administrators and parents. These crucial teaching attitudes and behavioral skills are deliberately planned instead of assuming that they will happen by chance.

Training in the clinical skills of diagnosing the learning difficulties of children is conducted with referrals that come to the Special Education department's psychoeducational clinic for intensive study. Prior to such specialized training students engage in a wide spectrum of field experiences observing and interacting with exceptional children in school and community program settings.

The Special Education professional Bloc invokes student participation in diverse practicum sites as interns. At these sites, a university supervisor is on hand daily observing, counseling, advising and supervising assigned students. A close working relationship between the site personnel and the university faculty member provides for a highly supervised practicum experience. This professional relationship contributes to valuable interacting that serves both the university and professional community in a valuable way.

Student teaching is the culminating field experience conducted during the senior year with joint planning and execution of an instructional program for learners who have special needs ranging from severe to mild learning handicaps. This experience is at times selectively monitored by video cameras which provide important feedback which may be reviewed and analyzed to assess the effectiveness of teaching strategies and styles.

### ***B.S. Degree in Special Education***

Special Education students who graduate from Clarion University of Pennsylvania receive certification to teach Mentally and/or Physically Handicapped students in elementary and secondary schools. This encompasses children who may be emotionally disturbed, learning disabled, brain injured, physically handicapped and all levels of mental retardation.



Specific exit capabilities are used in identifying the nature and needs of exceptional persons and dealing with them in an effective and facilitative manner. In addition, diagnostic/prescriptive skills are developed and used to design and implement learning activities to fit the individual and lead toward achievement of objectives in a systematic manner. The ability to maintain professionalism is achieved through legal and ethical awareness.

### **Professional Education and Area of Specialization**

ED	110	Introduction to Education	3
PSY	260	Developmental Psychology	3
ED	322	Educational Psychology	3
ELED	323	Teaching of Reading	3
ELED	324	Teaching of Math	3
SPA	457	Dev. Seq. of Language/Speech	3
SPED	210	Human Exceptionalities	3
SPED	215	Human Relations Skills	3
SPED	220	Nature of Mental Retardation	3
SPED	225	Early Field Experience	1
SPED	240	Neurological Impairment & Physical Disorders	3
SPED	305	Specific Learning Disabilities	3
SPED	310	Socially and Emotionally Disturbed	3
SPED	410	Educational Appraisal	4
SPED	415	ID & S for M/MH	3-6
SPED	420	ID & S for S/PM	3-6
SPED	425	Behavior Management	3
SPED	445	Secondary, Transitional, and Vocational Services	3
SPED	450	Student Teaching	12
RELATED SERVICES			10

## ***B.S. Degree in Rehabilitative Sciences***

Clarion University of Pennsylvania has developed a program to prepare professional personnel to provide meaningful human services to various groups of persons who have specialized needs such as those who are developmentally disabled, aging, and alcohol/drug abusers. Program graduates shall be competent in the technology of individual client service planning and implementation. They shall also be knowledgeable about the needs of the client-groups and the fundamental concepts of service-delivery at the personal or care-giving level as well as at the program level. They are skilled at the entry-level in relevant career activities of client-programming/theory and are prepared to be considered for supervisory/consultative roles as program specialists.

### **Program Requirements**

#### **Area of Specialization**

##### **I. *Rehabilitative Science Core*—41 credits**

SPED	210	Human Exceptionalities	3
SPED	215	Human Relations Skills Training	2
SPED	225	Early Field Experience	1
SPED	240	Neurological Impairment & Phy. Disorders	3
SPED	310	Socially and Emotionally Disturbed	3
SPED	425	Behavior Management	3
PSY	464	Intro. to Counseling and Psychotherapy	3

REHB	460	Models of Delivery Systems . . . . .	3
REHB	470	Therapeutic & Residential Svc. Programs . . . . .	3-6
PSY	354	Abnormal Psychology . . . . .	3
SW	311	Principles of Social Work . . . . .	3
SW	312	Social Work with Groups . . . . .	3
HPE	317	First Aid and Safety . . . . .	2
		Electives . . . . .	3
II. <i>Areas of Concentration</i> (select one or more)			
A. <i>Developmentally Disabled</i> —36 credits			
SPED	220	Nature of Mental Retardation . . . . .	3
SPED	415	ID & S M/MH . . . . .	3-6
SPED	420	ID & S S/PM . . . . .	3-6
PSY	260	Developmental Psychology . . . . .	3
HPE	326	Adapted Physical Education . . . . .	5
REHB	495	Field Exp. with Develop. Disab. . . . .	15
B. <i>Substance Abuse</i> —30 credits			
SPED	305	Specific Learning Disabilities . . . . .	3
REHB	405	Substance Abuse . . . . .	3
PSY	321	Psychology of Adolescence . . . . .	3
SOC	351	Contemporary Social Problems . . . . .	3
GS	242	You and the Law . . . . .	3
REHB	495	Field Experience in Area of Substance Abuse . . . . .	15
		Electives . . . . .	3
C. <i>Gerontology</i> —33 credits			
REHB	405	Substance Abuse . . . . .	3
PSY	457	Adult Development . . . . .	3
SOC	351	Contemporary Social Problems . . . . .	3
SOC	352	The Family . . . . .	3
REHB	495	Field Experience with Elderly . . . . .	15
		Electives . . . . .	6
III. <i>Electives</i> —0-6 credits			

## ***Special Education and Rehabilitative Sciences Dual Emphasis***

By taking a dual emphasis in Special Education and Rehabilitative Sciences, students will gain expertise to serve in schools and with community agencies. In addition to the general education requirements for all students, the following three areas and one area of concentration will constitute the program.

### **Area of Specialization**

#### **1. *Special Education*—53 credits**

SPED	210	Human Exceptionalities . . . . .	3
SPED	215	Human Relation Skills Training . . . . .	2
SPED	220	Nature of Mental Retardation . . . . .	3
SPED	225	Early Field Experience . . . . .	1
SPED	240	Neurological Impairment & Phys. Disorders . . . . .	3
SPED	305	Specific Learning Disabilities . . . . .	3
SPED	310	Socially and Emotionally Disturbed . . . . .	3
SPED	410	Educational Appraisal I . . . . .	4
SPED	415	ID & S for M/M Handicapped . . . . .	3-6

SPED	420	ID & S for S/P Multihandicapped. . . . .	3-6
SPED	425	Behavior Management in Sp.Ed. Settings . . . . .	3
SPED	450	Student Teaching . . . . .	6
2. <i>Rehabilitative Sciences</i> —20 credits			
REHB	460	Models of Hum. Svcs. Del. Sys. . . . .	3
REHB	470	Therapeutic/Residential Svc. Programs. . . . .	3-6
SW	311	Principles of Social Work. . . . .	3
SW	312	Social Work with Groups. . . . .	3
HPE	317	First Aid and Safety . . . . .	2
3. <i>Professional Education</i> —15 credits			
ED	110	Introduction to Education . . . . .	3
ED	322	Educational Psychology . . . . .	3
ELED	323	Teaching of Reading . . . . .	3
ELED	324	Teaching Elementary School Math. . . . .	3
SPA	457	Developmental Sequence Lang/Sp . . . . .	3
Areas of Concentration (select 1 or more)			
4. <i>Developmentally Disabled</i> —10 credits			
HPE	326	Adapted Physical Education. . . . .	3
REHB	495	Field Exp. w/Dev. Disabled . . . . .	7
5. <i>Substance Abuse</i> —10 credits			
REHB	405	Substance Abuse. . . . .	3
REHB	495	Field Exp. w/Dev. Disabled . . . . .	7
6. <i>Gerontology</i> —13 credits			
REHB	405	Substance Abuse. . . . .	3
PSY	457	Psychology of Adult Dev./Aging . . . . .	3
REHB	495	Field Experience . . . . .	7
Total: 149 Credits			

*Elementary Education/Special Education*

With careful planning, students can complete programs leading to certification in both special education and elementary education in 9 semesters or 4 years and a summer, thereby becoming eligible to teach in both regular and special classrooms. The dual certification will also help students to meet the challenges of mainstreaming. In addition, several states are now requiring dual certification to teach handicapped individuals.

**Speech Pathology and Audiology**

**Department of Speech Pathology and Audiology, Donald Dininny, Ph.D., Acting Chair**

**Professors:** Dininny, Hartley, Hetrick; **Associate Professors:** Keenan, McAleer; **Assistant Professor:** Jarecki, Ustik; **Instructor:** Janes

Leading to the Bachelor of Science Degree in Speech Pathology and Audiology, this preprofessional program is designed to prepare the student for graduate study and the completion of professional requirements at that level. Full professional status, including certification by the American Speech-Language-Hearing Association and appropriate state licensure, requires completion of the Masters degree. The department, furthermore, has an articulation agreement with Gallaudet College wherein interested majors may

study for a semester at that institution and transfer credits back to Clarion University.

In addition to the undergraduate program, the Department offers a graduate degree in Speech Pathology and Audiology, and makes provision for teacher certification following the completion of the Master of Science Degree.

### Required Courses, Speech and Hearing Science

			c.h.	s.h.
SPA	125	Introduction to Communication Disorders . . . . .	3	3
SPA	423	Professional Practicum . . . . .	2	2
SPA	450	Speech Science. . . . .	3	3
SPA	451	Anatomy of Speech and Hearing Mechanisms . . . . .	3	3
SPA	452	Speech Pathology I . . . . .	3	3
SPA	453	Speech Pathology II . . . . .	3	3
SPA	456	Phonetics and Phonology . . . . .	3	3
SPA	457	Developmental Sequences in Language . . . . .	3	3
SPA	458	Language Disorders in Children. . . . .	3	3
SPA	460	Hearing Problems . . . . .	3	3
SPA	463	Speech Reading and Auditory Training . . . . .	3	3
SPA	467	Clinical Observation . . . . .	3	3
SPA	472	Seminar in Speech Science. . . . .	3	3
ED	110	Introduction to Education . . . . .	3	3
ELED	323	Teaching Reading . . . . .	3	3
PHSC	457	Intro. to Electronics for Audio Applic . . . . .	3	3
PSY		Electives. . . . .	9	9
ENG	457	Introduction to Linguistics . . . . .	3	3
SPED	210	Human Exceptionalities . . . . .	3	3
MATH	221	or PSY 230. . . . .	3	3

NOTE: For General Education requirements in Speech Pathology and Audiology see pages 65-66.

### Sequence of Courses, Speech and Hearing Science

1st Semester				
SPA	125	Introduction to Communication Disorders . . . . .	3	3
SPA	450	Speech Science. . . . .	3	3
2nd Semester				
SPA	456	Phonetics and Phonology . . . . .	3	3
1st or 2nd Semester				
SPED	210	Human Exceptionalities. . . . .	3	3
3rd Semester				
SPA	451	Anatomy of Speech and Hearing Mechanisms . . . . .	3	3
4th Semester				
SPA	457	Developmental Sequences in Language and Speech. . . . .	3	3
5th Semester				
SPA	452	Speech Pathology I . . . . .	3	3

**6th Semester**

SPA	453	Speech Pathology II . . . . .	3	3
PHSC	457	Intro. to Electronics for Audio Applic. . . . .	3	3

**7th Semester**

SPA	460	Hearing Problems . . . . .	3	3
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**8th Semester**

SPA	463	Speech Reading and Auditory Training . . . . .	3	3
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**7th or 8th Semester**

SPA	423	Professional Practicum . . . . .	2	2
SPA	458	Language Disorders in Children . . . . .	3	3
SPA	467	Clinical Observation . . . . .	3	3
ENG	457	Introduction to Linguistics . . . . .	3	3
SPA	472	Seminar in Speech Science . . . . .	3	3

## College of Graduate Studies and Continuing Education

**Frank H. Sessions, Ph.D., Dean**

Office: Carrier Administration Building, Room 108

Telephone Extension—Continuing Education: 2227

Telephone Extension—Graduate Studies: 2337

### Graduate Degree Programs

Clarion University of Pennsylvania offers 11 graduate level programs leading to the Master of Arts, Master of Business Administration, Master of Education, Master of Science, or Master of Science in Library Science (accredited by the American Library Association) degrees.

Biology (M.S.)	Mathematics (M.Ed.)
Business (M.B.A.)	Reading Education (M.Ed.)
Communications (M.S.)	Science Education (M.Ed.)
Elementary Education (M.Ed.)	Special Education (M.S.)
English (M.A.)	Speech Pathology and
Library Science (M.S.L.S.)	Audiology (M.S., M.Ed.)

Teacher certificate programs are also available for Instructional Media Specialist, Reading Specialist, and School Supervisor.

For more detailed information on graduate curricula and courses, refer to the Graduate School bulletin.

### Continuing Education Programs

The major thrust of continuing education is to organize and make available to the community the vast resource of instructional talent that resides in the area. Educational programming of all types, presented in almost any format, and developed to meet the needs of a wide variety of audiences, is possible through continuing education.

Generally continuing education activities will fall into one of three program types: non-credit courses, open to the general public without regard to educational backgrounds; credit courses offered to meet professional needs; and conferences, a concentrated experience developed for a specific group.

Non-credit courses, as the name implies, do not carry academic credit, do not require admission to the university, do not have examinations or grades. They are mostly conducted on a basic level, thus allowing everyone the opportunity for personal growth. Reasons for pursuing non-credit courses could be for gaining job skills, personal development, intellectual enrichment or just plain fun.

## **College of Library Science**

**Bernard Vavrek, Ph.D., Interim Dean**

Office: Carlson Library Building, Room 166

Telephone Extension: 2271

### **Degree Listing**

Library Science (B.S.Ed.)

Management/Library Science (BSBA)

**Department of Library Science, Ahmad Gamaluddin, Ph.D., Chair**

Office: Carlson Library Building, Room 166

Telephone Extension: 2272

**Professors:** Gamaluddin, Vavrek; **Associate Professors:** Head, Jetter, Rosen; **Assistant Professors:** Dingle, Karp

On December 3, 1937, the State Council of Education approved a curriculum for the education of school librarians at Clarion University. The B.S. degree in Education with a specialization is offered by the College. In addition library science courses are offered as electives for Liberal Arts and Business Administration students (see program description for those degree programs). Elementary majors may elect to take their 18 hours concentration in library science.

Besides meeting state requirements for school librarianship, the library science program at Clarion qualifies students for entry level positions in public and special libraries.

Candidates for the B.S. degree in Education who specialize in library science are required to complete 45 semester hours of library science courses. A total of 128 semester hours must be completed for the B.S. in Education. Upon receipt of the degree, the graduate is recommended for certification as a librarian in all grades of the Pennsylvania public schools.

The undergraduate student begins library science courses in the first semester of the freshman year with the course, Introduction to Media Librarianship. A "C" average must be maintained in library science courses and a cumulative "C" average in all courses must be earned to graduate. (Course work more than 6 years old will not be acceptable in meeting certification requirements.) A student planning eventually to work for a master's degree in library science may need a reading knowledge of a modern foreign language and may, therefore, wish to take one of these languages as an undergraduate. It is also advisable to take one or more courses in computer information science.

Before being assigned to student teaching, all students specializing in library science must have completed the forty-five hours required for the specialization.

The student will find information on scholarship requirements for Teacher Education students on pages 105-106.

The College of Library Science offers a graduate program in Library Science accredited by the American Library Association, preparing personnel for first-level professional positions in public, school, academic, and special libraries. It is recommended that students planning to enter the master's program pursue a broad liberal arts education at the undergraduate level. It would be well to seek counsel from advisors and carefully plan the undergraduate program in order to meet the requirements for entering the Master of Science in Library Science program. For further information regarding the program refer to the bulletin of the College of Library Science.

## Library Science Education

### Curriculum, Certification Program

(Sequence of courses subject to change for administrative reasons.)

1st Semester			2nd Semester		
LS	255	Intro. to Media Librarianship . . . . .3	LS	257	Basic Information Sources and Services . . . . .3
LS	432	Colloquium . . . . .0	LS	258	Selection of Library Media . . . . .3
			LS	432	Colloquium . . . . .0
3rd Semester			4th Semester		
LS	357	Organization of Media . . . . .3	***LS	385	Automation and the School Lib. Media Center. . . . .3
**LS	490	Lib. Mater. & Serv. for Except. Stud. . .3	LS	432	Colloquium . . . . .0
LS	432	Colloquium . . . . .0			
5th Semester			6th Semester		
*LS	356	Media for Adolescents . . . . .3	*LS	358	Media for Children. . .3
LS	360	Admin. of School Lib. Media Centers. . . .3	LS	362	Sel. Utilization & Prod. of Lrng. Res. .3
LS	432	Colloquium . . . . .0	LS	459	Media, Methods and Curriculum. . . . .3
			LS	432	Colloquium . . . . .0
7th Semester			8th Semester		
ED	423	Lib. Practice. . . . .12	ED	423	Lib. Practice. . . . .3
LS	432	Colloquium . . . . .0	LS	432	Colloquium . . . . .0
*Prerequisite: LS 258			**Prerequisites: LS 257 and LS 258		
***Prerequisite: ED 217					
LS	457	Independent Study/ Seminar . . . . .3			
		Arranged			

Elementary education majors electing to take library science as a second major are required to take the professional core the seventh semester.

Library Science majors electing a second major are required to take ED 423—6 semester hours—and ELED 424 or ED 424—6 semester hours.

# Venango Campus

## Associate Degree Listing

Arts and Sciences (A.A.)

Business Administration (A.S.)

Accounting\*

Computer Processing\*

Management\*

Office Management\*

Nursing (A.S.N.)

Paralegal Business Studies (A.S.)

Legal Assistant\*

Legal Secretary\*

Rehabilitative Services (A.S.)

\*Academic Concentrations

To complete an Associate Degree, a minimum of thirty credit hours must be completed on the Venango Campus. The transfer of a specific Associate Degree to a specific baccalaureate program may incur deficiencies within the major.

The Bachelor of Science in Nursing Degree is also offered at Venango Campus. (See pages 150-153.)

## Associate of Science: Major in Business Administration

### Objectives

The Associate of Science program has as its principal objective the providing of an opportunity in post-secondary education not found elsewhere within the service area of Clarion University. Students studying in this program may take general business training or specialize in accounting, general business management, office management, or computer processing. If after earning the Associate Degree students wish to continue their education, they may transfer into Clarion's baccalaureate program without loss of credit.

### Academic Requirement

The program is divided into three blocks of required courses. Half of the program is aimed at developing the general educational level of the student's ability related to working and living in the business environment. The remaining courses are in the field of business and provide the basic and specialized knowledge needed for entry into the business world.

### General Education

		cr.
ENG	111 English Composition . . . . .	3
SCT	113 Fundamentals of Speech . . . . .	3



PSY	211	General Psychology . . . . .	(3)
		or	
SOC	211	Prin. of Sociology . . . . .	(3)
ECON	211	Principles of Macroeconomics . . . . .	3
HPE	111	Health Education . . . . .	2
Electives in Science or Humanities . . . . .			6*
			20

\*Office Management students need only 3 credits.

**Business Core**

The following business courses are required of all students regardless of their area of specialization.

MGMT	120	Introduction to Business . . . . .	3
MGMT	121	Fundamentals of Management . . . . .	3
MATH	131	Math for Business and Economics I . . . . .	3
CIS	110	Computer Info. Processing. . . . .	3
ACTG	251	Financial Accounting . . . . .	3
ACTG	252	Managerial Accounting . . . . .	3
BSAD	240	Legal Environment I . . . . .	3
ENG	206	Business Writing. . . . .	3
ECON	221	Economic and Business Statistics I . . . . .	3
			27

Each student will choose an area of specialization. Four areas are available. Requirements are listed below for each area.

ACCOUNTING

ACTG	253	Factory Accounting . . . . .	3
ACTG	254	Payroll Accounting. . . . .	3
ACTG	255	Financial Statement Preparation & Analysis . . . . .	3
ACTG	256	Income Tax Procedures & Forms . . . . .	3
Business Elective . . . . .			3
			15

GENERAL BUSINESS ADMINISTRATION

OFMT	221	Office Management . . . . .	3
MGMT	228	Human Behavior in Organiz . . . . .	3
MGMT	227	Applied Supervision . . . . .	3
Business Electives. . . . .			6
			15

OFFICE MANAGEMENT

*OFMT	132	Production Typing. . . . .	3
*OFMT	136	Executive Shorthand . . . . .	3
OFMT	221	Office Management . . . . .	3
OFMT	230	Office Procedures. . . . .	3
OFMT	232	Word Processing . . . . .	3
Business Elective . . . . .			3
			18

\*OFMT 132 and 136 require a proficiency level equal to two years of high school typing and shorthand. OFMT 131 and 135 are required for students who do not have this proficiency.

#### COMPUTER PROCESSING

CIS	223	Computer Program—COBOL . . . . .	.3
CIS	217	Microcomputer Applications . . . . .	.3
CIS	226	Computer Systems Development . . . . .	.3

Two courses from the following:

CIS	152	FORTTRAN II . . . . .	.3
CIS	211	Report Program Generator . . . . .	.3
CIS	224	DSFU COBOL . . . . .	.3
CIS	225	Survey of Languages . . . . .	.3

### Recommended Sequence, Accounting, Computer, and General Management

#### First Semester

PSY	211 or SOC 211 . . . . .	.3 cr.
CIS	110 . . . . .	.3 cr.
MGMT	120 . . . . .	.3 cr.
ACTG	251 . . . . .	.3 cr.
*Elective . . . . .		<u>.3 cr.</u>
		15 cr.

#### Second Semester

SCT	113 . . . . .	.3 cr.
MATH	131 . . . . .	.3 cr.
ACTG	252 . . . . .	.3 cr.
ENG	111 . . . . .	.3 cr.
Course from Specialization . . . . .		<u>.3 cr.</u>
		15 cr.

#### Third Semester

ECON	211 . . . . .	.3 cr.
ECON	221 . . . . .	.3 cr.
BSAD	240 . . . . .	.3 cr.
Course from Specialization . . . . .		.3 cr.
Course from Specialization . . . . .		<u>.3 cr.</u>
		15 cr.

#### Fourth Semester

ENG	206 . . . . .	.3 cr.
HPE	111 . . . . .	.2 cr.
MGMT	121 . . . . .	.3 cr.
*Elective . . . . .		.3 cr.
Course from Specialization . . . . .		.3 cr.
Course from Specialization . . . . .		<u>.3 cr.</u>
		15 cr.

\*MATH 100 and ENG 105 should be examined before electives are selected.

**Two-Year Sequence, Legal Secretary****First Semester**

ACTG 251  
 ENG 111  
 PSY 211  
 MGMT 120  
 HPE 111  
 Elective

**Second Semester**

ACTG 252  
 ENG 206  
 SCT 113  
 BSAD 240  
 OFMT 131 or OFMT 135  
 or BSAD 242 or Elective

**Third Semester**

BSAD 241  
 OFMT 132  
 OFMT 136  
 OFMT 232  
 ECON 211  
 ECON 221

**Fourth Semester**

BSAD 245  
 RE 372  
 ACTG 256  
 MATH 131  
 MGMT 121  
 CIS 110

**Two-Year Sequence, Office Management****First Semester**

ACTG 251  
 ENG 111  
 PSY 211  
 SOC 211  
 SCT 113  
 MGMT 120

**Second Semester**

ACTG 252  
 ENG 206  
 HPE 111  
 BSAD 240  
 OFMT 131  
 OFMT 135 or Elective  
 Business Elective

**Third Semester**

OFMT 132  
 OFMT 136  
 OFMT 221  
 ECON 211  
 ECON 221

**Fourth Semester**

MGMT 121  
 CIS 110  
 OFMT 230  
 OFMT 232  
 MATH 131

\*MATH 100, ENG 105, OFMT 131 and OFMT 135 should be examined before first semester is scheduled.

**Associate of Science: Major in Rehabilitative Services**

The associate degree program is designed to provide training for persons desiring to work in paraprofessional roles with exceptional citizens. The emphasis is on the blanket concept of "normalization" and related topics such as deinstitutionalization, mainstreaming, etc. This program is designed to help prepare persons to assist in the social-vocational adjustment of handicapped persons to community living.

Since paraprofessional roles in rehabilitative services will vary, the program of preparation offers both specialized and generic competencies. The person completing this program may opt for further education in Special Education and/or Rehabilitative Sciences at the Main Campus.

**General Education**

Cr.

ENG	111	English Composition . . . . .	3
SCT	113	Fundamentals of Speech. . . . .	3
PSY	211	General Psychology . . . . .	3
PSY	225	Psychology of Adjustment . . . . .	3
PSY	260	Developmental Psychology . . . . .	3
ED	322	Educational Psychology . . . . .	3
SOC	211	Principles of Sociology . . . . .	3
HPE	326	Adapted Physical Education . . . . .	2
Electives:		Humanities or Natural Science . . . . .	9
		General or free elective . . . . .	3
			35

**Special Education**

SPED	210	Human Exceptionalities . . . . .	3
SPED	215	Human Relations Skills Training. . . . .	2
SPED	220	Nature of Mental Retardation . . . . .	3
SPED	225	Early Field Experience . . . . .	1
SPED	230	Behavior Disorders. . . . .	3
SPED	235	Learning Disorders. . . . .	3
SPED	240	Neurological Impairment & Physical Disorders . . . . .	3
SPED	245	Behavior Management . . . . .	3
SPED	250	The Helping Relationship: Principles and Procedures . . . . .	3
SPED	295	Field Experience. . . . .	6
			28

**Suggested Sequence****First Semester**

ENG	111	English Composition . . . . .	3
SCT	113	Fundamentals of Speech. . . . .	3
SPED	210	Human Exceptionalities . . . . .	3
SPED	215	Human Relations Skills Training. . . . .	2
PSY	211	General Psychology . . . . .	3
			14

**Second Semester**

PSY	225	Psychology of Adjustment . . . . .	3
PSY	260	Developmental Psychology . . . . .	3
SPED	220	Nature of Mental Retardation . . . . .	3
SPED	225	Early Field Experience . . . . .	1
SPED	230	Behavior Disorders. . . . .	3
SPED	235	Learning Disorders. . . . .	3
Elective—Humanities or Natural Sciences		. . . . .	3
			19

**Third Semester**

SPED	240	Neurological Impairment and Physical Disorders. . . . .	3
SOC	211	Principles of Sociology . . . . .	3
ED	322	Educational Psychology . . . . .	3
SPED	245	Behavior Management . . . . .	3
Elective—Humanities or Natural Sciences		. . . . .	6
			18

Fourth Semester

SPED	250	The Helping Relationship: Prin. & Proc . . . . .	3
SPED	295	Field Experience. . . . .	6
HPE	326	Adapted Physical Education . . . . .	2
Elective—General Elective . . . . .			3
			14

Associate of Science: Paralegal Business Studies

This Associate of Science degree program offers concentrations in Legal Assistant and for Legal Secretary. The Legal Assistant Program is designed to educate students in the knowledge of law and legal procedures to render direct assistance to lawyers. The Legal Secretary Program teaches students to type deeds, wills, pleadings, and perform secretarial duties peculiar to the law office. The majority of courses required for these concentrations are offered at Venango Campus. Some of the courses are also offered at Clarion Campus.

Academic Requirement

The program is divided into three blocks of required courses. The general education and business core classes are required of all Associate of Science candidates to develop their ability to work and live as a well-rounded and competent individual in the business environment. The remaining courses are specialized courses in the Legal Secretary/Legal Assistant areas.

General Education cr.

ENG	111	English Composition . . . . .	3
SCT	113	Fundamentals of Speech. . . . .	3
HPE	111	Health Education . . . . .	2
PSY	211	General Psychology . . . . .	3
ECON	211	Principles of Macroeconomics . . . . .	3
Electives . . . . .			6
			20

Business Core

The following courses are required of all paralegal business students regardless of their area of specialization.

MATH	131	Math for Business and Economics I . . . . .	3
CIS	110	Introduction to Computer Information Systems . . . . .	3
MGMT	120	Introduction to Business . . . . .	3
ACTG	251	Financial Accounting . . . . .	3
ACTG	252	Managerial Accounting. . . . .	3
BSAD	240	Legal Environment I. . . . .	3
ENG	206	Business Writing. . . . .	3
ECON	221	Economic and Business Statistics I . . . . .	3
MGMT	121	Fundamentals of Management . . . . .	3
			27

Each student will choose an area of specialization. Two areas are available. Requirements are listed below for each area.

<b>Legal Secretary</b>		cr.
OFMT	132	Production Typing . . . . .3
OFMT	136	Executive Shorthand . . . . .3
OFMT	232	Word Processing . . . . .3
RE	372	Real Estate Law. . . . .3
ACTG	256	Income Tax Procedures . . . . .3
BSAD	241	Legal Environment II . . . . .3
BSAD	245	Field Experience. . . . .1
		19

<b>Legal Assistant</b>		cr.
BSAD	241	Legal Environment II . . . . .3
BSAD	242	Methods of Legal Research . . . . .3
FIN	373	Fundamentals of Insurance. . . . .3
RE	372	Real Estate Law. . . . .3
ACTG	256	Income Tax Procedures . . . . .3
BSAD	245	Field Experience. . . . .1
BUSINESS ELECTIVE		. . . . .3
		19

**Notes:**

1. Students are advised to use 3 semester hours in the following ways: elect a second course in composition, speech, computer science; elect a specific course, MGMT/PSY 228: Human Behavior in Organizations; or elect a skills course which would enhance the student's chance for employment.
2. Legal Secretary students may need OFMT 131 or 135. OFMT 132 and OFMT 136 have prerequisites of two years of high school typing and shorthand or OFMT 131 and OFMT 135.
3. Students in Legal Assistant are advised to take PS 211 and PHIL 111.
4. The students must complete a minimum of 30 credits in residence.

## Associate of Arts in Arts and Sciences

The Associate of Arts is a liberal arts degree program designed to provide the traditional student with a wide range of experiences or to provide the adult learner with a flexible educational program. To complete an Associate Degree, a minimum of thirty credit hours must be completed on the Venango Campus.

### Suggested Program Outline

- I. Communication (12)\*
  - A. ENG 111: English Composition
  - B. MATH 112: Excursions in Mathematics
  - C. SCT 113: Fundamentals of Speech
  - D. CIS 110: Computer Information Process
- II. Humanities (12)\*
  - A. MUS 111: Introduction to Music
  - B. ART 110: The Visual Arts
  - C. ENG 170: The Literary Experience
  - D. SCT 253: Introduction to Theatre
- III. Natural Science (12-13)\*
  - A. BIOL 111: Basic Biology

B. PHSC 111: Physical Science—Chemistry

C. PHSC 112: Physical Science—Physics

D. ES 111: Basic Earth Science

IV. Social Science (12)\*

A. PSY 211: General Psychology

B. SOC 211: Principles of Sociology

C. HIST 112: Early Modern Civilization

D. PS 211: American Government

V. Personal Development (2)

VI. Free Electives (14)

Total: 64

\* Since this is a Liberal Arts degree, with the permission of academic advisor substitutions by equivalent course within the area of study is allowable.

## General Course Offerings

NOTE: Certain courses listed under general education below are also applicable to major fields. Students should consult the university catalog and their advisors to determine which courses should be taken for specific majors.

I. Modes of Communication

Credits

ENG 111 English Composition . . . . .3

COMM 100 Explorations in Mass Comm. . . . .3

CIS 110 Computer Info. Process. . . . .3

MATH 111 Basic Elementary Math . . . . .3

or

MATH 112 Excursions in Math . . . . .3

SCT 113 Fundamentals of Speech . . . . .3

SCT 200 Interpersonal Communication. . . . .3

SCT 214 Business and Professional Speaking. . . . .3

II. Humanities

ART 110 The Visual Arts . . . . .3

ART 125 Color and Design. . . . .3

ENG 170 The Literary Experience . . . . .3

ENG 201 Advanced Composition . . . . .3

ENG 202 Beginning Creative Writing. . . . .3

ENG 209 Special Topics in Literature . . . . .3

ENG 291 Short Fiction . . . . .3

GER 151 German I . . . . .3

HUM 120 Humanities I . . . . .3

HUM 121 Humanities II. . . . .3

MUS 111 Intro. to Music. . . . .3

PHIL 111 Elementary Logic. . . . .3

PHIL 211 Intro. to Philosophy . . . . .3

SCT 120 Theatre Play Production . . . . .3

SCT 251 Voice & Diction. . . . .3

SCT 253 Intro. to Theatre . . . . .3

SPAN 151 Spanish I . . . . .3

III. Social Science

ANTH 211 Intro. to Anthropology . . . . .3

ECON	211	Prin. of Macroeconomics. . . . .	3
ECON	212	Prin. of Microeconomics . . . . .	3
ECON	221	Econ. & Bus. Stats. I . . . . .	3
GEOG	100	Intro. to World Geography . . . . .	3
GEOG	258	Geography of Pennsylvania. . . . .	3
HIST	111	Ancient & Medieval Civ. . . . .	3
HIST	112	Modern Civilization. . . . .	3
HIST	113	Modern Civ., 1789 to the Present . . . . .	3
HIST	120	U.S. History to 1877 . . . . .	3
HIST	121	U.S. History since 1877 . . . . .	3
HIST	216	Business in the American Economy . . . . .	3
HIST	235	Topics in European History . . . . .	3
HIST	215	Topics in American History . . . . .	3
HIST	299	History of American Labor . . . . .	3
PSY	211	General Psychology. . . . .	3
PSY	225	Psychology of Adjustment. . . . .	3
PSY	228	Human Behavior in Organizations. . . . .	3
PSY	260	Developmental Psychology . . . . .	3
PSY	331	Child Psychology . . . . .	3
PSY	354	Abnormal Psychology . . . . .	3
GEOG	254	Conservation of Natural Resources . . . . .	3
GEOG	257	Geography of U.S. & Canada . . . . .	3
PS	211	American Government . . . . .	3
SOC	211	Principles of Sociology . . . . .	3
SOC	351	Contemporary Social Problems . . . . .	3
SOC	352	The Family . . . . .	3

#### IV. Natural Science/Mathematics

BIOL	111	Basic Biology. . . . .	4
BIOL	258	Anatomy & Physiology I . . . . .	3
BIOL	259	Anatomy & Physiology II . . . . .	3
BIOL	260	Microbiology . . . . .	3
BIOL	453	Pathophysiology: Endo . . . . .	4
BIOL	454	Pathophysiology: Exo . . . . .	4
CHEM	153	General Chemistry I . . . . .	3
CHEM	163	General Chemistry Lab I . . . . .	1
CHEM	154	General Chemistry II . . . . .	3
CHEM	164	General Chemistry Lab II. . . . .	1
MATH	100	Practical Math . . . . .	3
MATH	131	Math. for Bus. & Econ. I . . . . .	3
MATH	232	Calculus for Business. . . . .	3
MATH	171	Precalculus . . . . .	4
MATH	221	Applied Statistics . . . . .	3
MATH	240	Discrete Math. Structures . . . . .	3
MATH	270	Calculus w/Analytic Geom. I. . . . .	4
ES	111	Basic Earth Science . . . . .	3
ES	252	Physical Geology. . . . .	3
PHSC	111	Basic Phys. Sci. I (Chem.) . . . . .	3
PHSC	112	Basic Phys. Sci. II (Physics) . . . . .	3

#### V. Electives for General Education

ENG	105	Basic Composition . . . . .	3
ENG	200	Composition & Literature . . . . .	3



ENG	206	Business Writing . . . . .	3
GS	100	College Reading/Study Skills . . . . .	2
HPE	111	Health . . . . .	2
HPE	151	Basketball . . . . .	1
HPE	153	Volleyball . . . . .	1
HPE	173	Aerobic Dancing I . . . . .	1
OFMT	232	Word Processing . . . . .	3
RE	270	Real Estate Fundamentals . . . . .	3
RE	271	Real Estate Practice . . . . .	3
RE	272	Real Estate Law . . . . .	3

#### Business Education Subjects

ACTG	251	Fin. Actg . . . . .	3
ACTG	252	Managerial Actg . . . . .	3
ACTG	253	Factory Actg . . . . .	3
CTG	254	Payroll Actg . . . . .	3
ACTG	255	Fin. Statement Prep. & Analysis . . . . .	3
ACTG	256	Income Tax Procedures & Forms . . . . .	3
CIS	226	Computer Systems . . . . .	3
CIS	255	Survey of Languages . . . . .	3
CIS	211	Report Prog. Gen. . . . .	3
CIS	217	Micro-Mini Computers . . . . .	3
CIS	223	Computer Prog. COBOL I . . . . .	3
CIS	224	COBOL II . . . . .	3
CIS	225	Survey of Languages . . . . .	3
BSAD	228	Human Behav. in Org . . . . .	3
BSAD	240	Legal Environm. I . . . . .	3
BSAD	241	Legal Environm. II . . . . .	3
MGMT	120	Intro. to Bus . . . . .	3
MGMT	121	Fund. of Mgmt. . . . .	3
MGMT	227	Applied Superv . . . . .	3
MGMT	228	Human Behavior in Organizations . . . . .	3
OFMT	131	College Typing . . . . .	3
OFMT	132	Production Typing . . . . .	3
OFMT	135	College Shorthand . . . . .	3
OFMT	136	Executive Shorthand . . . . .	3
OFMT	221	Office Management . . . . .	3
OFMT	230	Office Procedures . . . . .	3
OFMT	231	Office Practice . . . . .	3

#### Special Education Subjects

SPED	210	Human Except . . . . .	3
SPED	215	Human Rel. in Skills Train . . . . .	2
SPED	220	Nature of Ment. Retard . . . . .	3
SPED	225	Early Field Exp . . . . .	1
SPED	230	Behav. Disorders . . . . .	2
SPED	235	Learn. Disorders . . . . .	2
SPED	240	The Phys. Handicapped . . . . .	3
SPED	245	Behav. Mgmt . . . . .	2
SPED	250	The Helping Relationship: Prin. & Proc . . . . .	3
SPED	295	Field Experience . . . . .	6

**Professional Education Courses**

ED	110	Introduction to Education . . . . .	3
ED	323	Social Foundations of Education . . . . .	3
ED	329	Audio-Visual Education . . . . .	2
ED	322	Educational Psychology . . . . .	3
HPE	310	Adapted Physical Education . . . . .	2

## **School of Nursing**

**T. Audean Duespohl, Ph.D., Dean**

Office: Montgomery Hall, Venango Campus

Telephone Extension: 2420

### **Degree Listing**

Associate of Science in Nursing Program (A.S.N.)

Bachelor of Science in Nursing Program (B.S.N.)

Bachelor of Science in Nursing-RN Completion Program (B.S.N.)

Venango Campus, Oil City, Pennsylvania

West Penn Hospital, Pittsburgh, Pennsylvania

## **Department of Nursing**

**Barbara Stright, M.S.N., Chair**

Office: Montgomery Hall

Telephone Extension: 2420

**Barbara Guthrie, Ph.D., Director, Pittsburgh BSN Completion Program**

Office: Pittsburgh, PA

## **Philosophy**

The philosophy of the Clarion University School of Nursing is consistent with the philosophy of Clarion University in establishing as the School's primary goal the provision of educational experiences designed to promote scientific inquiry, creative thinking, critical judgment, and self-evaluation. The student's nursing education is complemented by such curriculum offerings as humanities, natural sciences, behavioral sciences, and free electives. The programs are based on the concept of continued self-development so that graduates will aspire to improve and expand their competencies on a continuing basis after graduation.

Nursing is a profession concerned with the delivery of care to individuals and groups of individuals who desire assistance with health maintenance during their life processes. The nursing process is the basis for communication between the nurse, client, and family who collaborate to achieve maximum health potential. This process includes health teaching by the nurse for the purpose of establishing and maintaining a high level of well-being.

Man\* is a unified whole who continually interrelates with his environment. Man as a sensing, thinking being makes conscious choices and assumes responsibility for the consequences. Given freedom of choice, man will make decisions regarding his health care needs according to his priorities. He possesses and manifests traits that are greater than but different from the sum of all his parts. Man's family is made up of significant others within his framework of life.

\*Homo sapiens.

Health, as defined by the client, is the primary focus of nursing care. It is a dynamic, ever-changing state based on man's ability to maintain his optimum level of wellness. A client's concept of health-illness is derived from patterns he has formulated based on his personal experiences. Man, as an expert on himself, assumes responsibility for seeking assistance throughout the health-illness continuum. Therefore, he must be consulted concerning his own health goals and participate actively in his health care.

Society is a dynamic organization which is composed of individuals, families, and communities. Societal roles and trends interrelate with man's experience to direct his behavioral patterns and life goals. This interaction is demonstrated by man's practicing of health maintenance and striving for well-being.

Education is a dynamic activity which involves the teaching-learning process. Teaching is an organized activity that facilitates learning and is accomplished by the active sharing of attitudes, skills, and knowledge. Learning requires mental activity and is enhanced by a climate which takes into consideration the learner's previous educational and life experience.

Learning is a self-directed activity requiring motivation, desire, and effort by the learner, and the learner's response to the process is unique to that individual.

The Nursing Faculty endorses two levels of nursing practice—the technical and the professional—and conceptualizes the nursing profession as follows:

The first level of nursing is provided by the technical nurse who is educated in associate degree nursing programs and the second level by the professional nurse prepared in baccalaureate and post-baccalaureate programs. The nursing care provided by the associate degree nurse demonstrates a high degree of technical skill based upon principles from an ever-expanding body of science. The associate degree nurse works directly under the supervision of the professional nurse, performing those skills necessary to carry out the prescribed nursing care plan and the medical regimen. The professional nurse, although proficient in technical skills, assumes primary responsibility for the nursing care of individuals and groups, coordinates the health team as it assists clients with their goals, serves as a resource person for all persons giving direct client care, and engages in research to evolve nursing theory.

## **School of Nursing Policies**

### ***Academic Requirements in Nursing***

The academic requirements of the university apply to all programs in the School of Nursing, but in addition the student must earn grades of at least C in the theory and PASS in clinical practice in each of the following nursing courses: NURS 101, 102, 201, 202, 361, 462, 463, and 464.

All the nursing courses listed above entail (a) theory and (b) clinical practice. The student receives two grades in each course. The theory area of all nursing courses is graded on the conventional A-B-C-D-E scale with any mark below C indicating failing achievement. Students will be graded in theory according to the following:

**GRADING SCALE**

93-100	A
84-92	B
75-83	C
74-66	D
65-below	E

The clinical practice experience is graded Pass/Fail instead of being awarded a letter grade. The associate degree student is evaluated by four critical elements which must be met in order to receive a passing grade in the clinical area. The baccalaureate degree student is evaluated by an evaluation tool based on program and course objectives.

An unsatisfactory grade in either the theory or the clinical practice experience or both areas of any of the nursing courses listed in this section is regarded as a failure for the entire course and failure in the nursing program.

### ***Transfer***

The transfer policy for nursing students is consistent with that of Clarion University, however nursing credits are only transferable if received from an Associate Degree or Bachelor Degree Program within the preceding two years. Only the courses NURS 101 and NURS 102, are transferable and only if they are deemed comparable by the nursing faculty.

### ***Intercollegiate Transfer***

A student presently enrolled in a program at Clarion University may request admission into the Associate of Science in Nursing Program by filling out a Change of Status Form and submitting it to the School of Nursing at Venango Campus.

1. A student must have the Change of Status Form completed and sent to the School of Nursing by January 31, for admission to the program in the Fall of that year.
2. Interviews of prospective transfer students from within the university will begin February 1.
3. Students requesting intercollegiate transfer must meet the general admission requirements of the nursing program.

### ***Readmission***

Students who are dropped from a nursing program because of unsatisfactory performance as noted in the Grading Policy may apply for readmission to the nursing program. Readmission to the nursing program involves the professional judgment of the nursing faculty with its recommendation based upon a majority vote of the faculty. Students readmitted into the nursing program after a failure must repeat both components of the course in which achievement was unsatisfactory regardless of the grade in either.

It should be understood that a student dropped from the nursing program is not by such action dropped from the university. Either academic probation or academic suspension from the university is based upon failure to achieve academic standards detailed in the university catalog. Thus, a student who is

dropped from nursing for unsatisfactory performance in nursing courses may be eligible to transfer into another area of study.

Students who withdraw from a nursing program are not automatically readmitted but must be evaluated individually by the nursing faculty. Readmission to the nursing program involves the professional judgment of the nursing faculty with its recommendation based upon a majority vote of the faculty.

## **Associate of Science in Nursing Program**

**Barbara Stright, RN, MSN, Coordinator**

**Patricia Gracy, RN, MSN, Coordinator**

**Associate Professor:** Harrison; **Assistant Professors:** Amsdell, Gracy, Shiley, Stright, Weber

### ***Role Statement***

Associate degree nursing education at Clarion University provides a theoretical foundation for the development of knowledge and skills necessary to assist individuals with their health care. Technical nursing education prepares associate degree graduates to function as direct care givers within hospital settings. Nursing care focuses on the person with common recurring health problems and incorporates those nursing interventions which are based on previously established protocol. Upon successful completion of the Associate of Science in Nursing Program, the graduate is eligible to take the National Council Licensure Examination (NCLEX) to become a registered nurse (RN).

### ***Admission Requirements***

Candidates for admission into the Associate of Science in Nursing Program must make application to the Admissions Office at Clarion University. All nursing individuals are required to have a pre-acceptance personal interview in order to evaluate:

- a. Basic communication skills
- b. Maturity
- c. Motivation
- d. Applicability
- e. Previous educational and/or work experiences

Academic admission criteria for entrance include the following:

- a. a high school class rank of 2/5 or better
- b. exceptionally high college board scores
- c. high motivation

Nursing applicants shall have completed work equal to a standard high school course with a minimum of 16 units, including 4 units of English, 3 units of Social Studies, and 2 units of Mathematics (one of which is Algebra). In addition, they must have received a "C" average in secondary school biology and chemistry within five years prior to entry into the program.

Students who are accepted into the associate of science in nursing program and have completed the admission process, including the fifty dollar deposit, may ask to delay entrance for one year. After the delay of one year, students who do not enter the nursing program forfeit their position.

The School of Nursing has an Advanced Standing Policy for Licensed Practical Nurses who desire to continue their education at the collegiate level.

## ***Associate of Science in Nursing Degree Program Curriculum***

### ***Freshman Year***

#### **First Semester**

			Cr.
ENG	111	Composition. . . . .	3
BIOL	258	Anatomy & Physiology I. . . . .	3
PSY	211	General Psychology . . . . .	3
NURS	101	Introduction to the Nursing Process: Fundamentals of Nursing . . . . .	8

#### **Second Semester**

BIOL	259	Anatomy & Physiology II . . . . .	3
PSY	260	Developmental Psychology . . . . .	3
		Elective. . . . .	3
NURS	102	Nursing Process I: Parental and Child Health . . . . .	4
NURS	103	Nursing Process II. . . . .	4

### ***Sophomore Year***

#### **Third Semester**

SCT	113	Fundamentals of Speech. . . . .	3
BIOL	260	Microbiology . . . . .	3
SOC	211	Principles of Sociology. . . . .	3
NURS	201	Nursing Process III. . . . .	8

#### **Fourth Semester**

ENG		Elective. . . . .	3
HUM		Elective. . . . .	3
NURS	202	Nursing Process IV . . . . .	8
NURS	203	Nursing Seminar . . . . .	2

## **Bachelor of Science in Nursing Program**

**Mary Kavoosi, RN, MSN, Coordinator**

**Associate Professor:** Guthrie; **Assistant Professors:** Benson, Kavoosi, Lawrence, Tarr

### ***Role Statement***

The Bachelor of Science in Nursing Program at Clarion University prepares the graduate to practice as a generalist in a variety of health settings through the internalization of concepts relevant to professional nursing. The BSN Program promotes the application of the natural, social, and behavioral sciences, as well as nursing theory to the practice of professional nursing. Through research, professional nursing education extends the knowledge base and scope of nursing practice.

The Bachelor of Science in Nursing Program is based on the career ladder concept, and is therefore a continuation of the Associate of Science in Nursing Program. As such, this program requires a minimum of four additional semesters of study beyond the associate degree.

## ***Admission Requirements***

Candidates for admission into the Bachelor of Science in Nursing Program must make application to the Admissions Office at Clarion University and gain acceptance into the Associate of Science in Nursing Program. During the fourth semester of the associate degree program, individuals interested in continuing their education at the bachelor level must notify the Admissions Office of their intent to further their education by making application to the BSN program. Admission procedure for entrance include the following:

- a. Have graduated from Clarion's Associate of Science in Nursing Program the previous Spring semester.
- b. Have applied to take the licensure examination for registered nurses in the state of Pennsylvania prior to Fall semester.
- c. Show evidence of scholarship as demonstrated by a Q.P.A. of 2.5 on a 4.0 point system.
- d. Meet BSN admission criteria.
- e. Demonstrate theoretical and technical competencies.
- f. Complete a personal interview to determine:
  - (1) suitability for professional nursing
  - (2) personal goals related to professional nursing

## ***B.S. in Nursing Curriculum***

### ***\*Freshman Year***

### ***\*Sophomore Year***

### ***Junior Year***

#### **First Semester**

			Cr.
NURS	340	Man-Health-Nursing . . . . .	3
NURS	361	Advanced Nursing Process . . . . .	6
BIOL	453	Pathophysiology: Endogenous . . . . .	4
CHEM	205	Nutrition . . . . .	3

#### **Second Semester**

			Cr.
NURS	462	Advanced Nursing Process: Chronic Care . . . . .	6
BIOL	454	Pathophysiology: Exogenous . . . . .	4
		Statistics . . . . .	
HUM		Elective. . . . .	3

### ***Senior Year***

#### **Third Semester**

			Cr.
NURS	445	Inquiry in Nursing . . . . .	3
NURS	463	Advanced Nursing Process: Acute Care . . . . .	6
ED	122	Educational Psychology . . . . .	3

HUM	Elective. . . . .	3
	Free Elective. . . . .	3

#### Fourth Semester

			Cr.
NURS	457	Leadership Skills in Nursing . . . . .	3
NURS	464	Advanced Nursing Process: Health Promotion and Maintenance. . . . .	6
	**	Free Elective. . . . .	3
HUM		Elective. . . . .	3
Total Credits—128			

\*Refer to Freshman and Sophomore years of Associate of Science in Nursing Curriculum.

\*\*Individuals desiring School Nurse Certification must take ED 110, Introduction to Education, as the free elective.

## Bachelor of Science in Nursing— RN Completion Program

### *Role Statement*

The Bachelor of Science in Nursing completion program at Clarion University prepares the graduate to practice as a generalist in a variety of health settings through the internalization of concepts relevant to professional nursing. The BSN completion program promotes the application of the natural, social and behavioral sciences, as well as nursing theory to the practice of professional nursing. Through research, professional nursing education extends the knowledge base and scope of nursing practice.

Upper division nursing education is built upon the fundamental nursing knowledge and technical competencies acquired by the registered nurses prior to entrance into the program. Thus, Clarion University's Bachelor of Science in Nursing completion program is designed to augment previously attained knowledge and experiences in order to graduate individuals prepared to practice nursing at the professional level.

### *Admission Requirements*

Admission into the Bachelor of Science in Nursing RN-Completion Program is contingent upon successful fulfillment of pre-entry requirements. Nursing students can fulfill requirements of the lower division by:

1. Transferring 30 nursing credits from an associate degree in nursing program, or successful completion of selected challenge exams.
2. Transferring 33 general education credits from any accredited college or successful completion of selected challenge exams.

Admission criteria for entrance include the following:

- a. Have graduated from either an associate or diploma program in nursing.
- b. Hold current licensure as a RN in Pennsylvania or have applied to take the licensure examination for registered nurses in the state of Pennsylvania prior to Fall semester.
- c. Show evidence of scholarship as demonstrated by Q.P.A. of 2.5 on a 4.0



- point system in previous nursing education program.
- d. Meet BSN admission criteria.
- e. Demonstrate theoretical and technical competencies.
- f. Complete a personal interview to determine:
  - (1) suitability for professional nursing.
  - (2) personal goals related to professional nursing.

***B. S. in Nursing Curriculum,  
RN Completion Program***

**Pre-Entry Requirements**

<i>Nursing</i>	Credits
Maternal and Child Health Care . . . . .	10
Mental Health Care . . . . .	10
Adult Health Care . . . . .	10
	30

<i>General Education</i>	
English Composition. . . . .	6
Sociology . . . . .	3
Speech . . . . .	3
Natural Science and/or Math . . . . .	9
Psychology . . . . .	6
Free Elective . . . . .	6
	33

**B.S.N. Requirements**

***\*Junior Year***

***\*Senior Year***

**Total Credits—128**

**\*Refer to Junior and Senior years of the Bachelor of Science in Nursing Curriculum**

**School Nurse Certification**

Individuals desiring school nurse certification are required to complete the curriculum requirements of the Bachelor of Science in Nursing Program; and in addition, must complete specific criteria in the BSN program related to school nursing certification competencies including ED 110, Introduction to Education. Upon receipt of the degree, the graduate is recommended for certification as a school nurse in all grades of the Pennsylvania public schools.

**Cooperative Education  
Internship Program**

**College Deans**

Co-op study is a general term applied to voluntary service, part-time and full-time employment, and internship experiences.

Co-op courses (300 level) are based upon job assignments which are related to the student's university major or career objectives and which provide learning experiences as stated in their respective learning objectives. Faculty coordinators from academic departments advise students, review learning objectives, and evaluate term reports.

Cooperative education procedures are sufficiently flexible to provide for student and employer needs. The program is designed to enhance self-realization and direction by integrating classroom study with planned and supervised experiences in educational, professional, business, and cultural learning situations outside the formal classroom environment. The joint efforts of faculty, participating employers, and students are directed toward the achievement of an educational experience where classroom studies and appropriate work experience combine to reinforce each other. Prerequisite: junior standing, minimum QPA 2.5, or approval of the appropriate college dean. Offered each semester and summer session.

An internship (400 level) is usually a culminating experience for seniors and graduate students. Interns should have completed most of the required courses in their major area of study. Internships operate somewhat like student teaching, with the emphasis upon application of knowledge in a realistic setting rather than acquisition of new material. In other words, internships are begun with most entry level skills at least partially developed, and the intern is expected to render supervised professional services. The length of an internship may be less than a semester or as long as a year. Many internships carry no salary or stipend.

Because internships are tailored to fit the demands of the respective professions as well as the needs of individual students, each college and department is encouraged to establish requirements and criteria for acceptance in the program and for successful completion which go beyond the minimal requirements established by the cooperative education/internship program. Each college through its departments is expected to enforce its own requirements.

Minimally, students must have senior standing and a QPA of at least 2.50 or approval of the department.

**CREDIT HOURS** for co-op/internship registration carry from 1 to 12 credits as arranged. Any combination of co-op/internship credits earned in excess of 12 semester hours cumulative total will be entered on student records, but will not be counted as credits required for graduation.

**GRADING** of co-op/internship experiences will carry "Credit/No Record" evaluation of work performance. Individual students may petition to receive a letter grade at the time of registration. This policy does not apply to the Credit/No Record regulation promulgated as part of the university grading system.

## Medieval and Renaissance Cultures Conference

Clarion University holds membership in a consortium of Pennsylvania universities which sponsor the Conference on Medieval and Renaissance Cultures. Its appeal is to scholars, teachers, students, and all others who have an interest in an appreciation of the art and culture of the Middle Ages and the Renaissance. The Conference features outstanding scholars and, when possible, performing groups that specialize in the music and drama of the two periods. It is

held annually in early spring either at one of the consortium or other invited institutions. The 1977 and 1983 meetings were hosted by Clarion University.

## Co-op Course Numbers

COOP	301: Co-op/Anthropology
COOP	401: Intern/Anthropology
COOP	302: Co-op/Philosophy
COOP	402: Intern/Philosophy
COOP	303: Co-op/Political Science
COOP	403: Intern/Political Science
COOP	304: Co-op/Sociology
COOP	404: Intern/Sociology
COOP	305: Co-op/Social Work
COOP	405: Intern/Social Work
COOP	306: Co-op/Art
COOP	406: Intern/Art
COOP	308: Co-op/Biology
COOP	408: Intern/Biology
COOP	309: Co-op/Environmental Sciences
COOP	409: Intern/Environmental Sciences
COOP	310: Co-op/Outdoor Education
COOP	410: Intern/Outdoor Education
COOP	311: Co-op/Science Education
COOP	411: Intern/Science Education
COOP	312: Co-op/Chemistry
COOP	412: Intern/Chemistry
COOP	313: Co-op/Communications
COOP	413: Intern/Communications
COOP	314: Co-op/Advertising
COOP	414: Intern/Advertising
COOP	315: Co-op/Journalism
COOP	415: Intern/Journalism
COOP	316: Co-op/Public Relations
COOP	416: Intern/Public Relations
COOP	317: Co-op/Radio
COOP	417: Intern/Radio
COOP	318: Co-op/Television
COOP	418: Intern/Television
COOP	320: Co-op/Accounting
COOP	420: Intern/Accounting
COOP	322: Co-op/Banking
COOP	422: Intern/Banking
COOP	323: Co-op/Finance
COOP	423: Intern/Finance
COOP	324: Co-op/Management
COOP	424: Intern/Management
COOP	325: Co-op/Marketing
COOP	425: Intern/Marketing
COOP	326: Co-op/Real Estate
COOP	426: Intern/Real Estate

COOP	327: Co-op/Economics
COOP	427: Intern/Economics
COOP	328: Co-op/Administration
COOP	428: Intern/Administration
COOP	329: Co-op/Office Management
COOP	429: Intern/Office Management
COOP	330: Co-op/Management in Library Science
COOP	430: Intern/Management in Library Science
COOP	332: Co-op/Early Childhood
COOP	432: Intern/Early Childhood
COOP	333: Co-op/Elementary Education
COOP	433: Intern/Elementary Education
COOP	334: Co-op/Secondary Education
COOP	434: Intern/Secondary Education
COOP	335: Co-op/Education
COOP	435: Intern/Education
COOP	336: Co-op/English
COOP	436: Intern/English
COOP	337: Co-op/Writing Center
COOP	437: Intern/Writing Center
COOP	338: Co-op/Geography
COOP	438: Intern/Geography
COOP	339: Co-op/Earth Science
COOP	439: Intern/Earth Science
COOP	340: Co-op/Urban Planning
COOP	440: Intern/Urban Planning
COOP	341: Co-op/Health and Safety
COOP	441: Intern/Health and Safety
COOP	342: Co-op/Physical Education
COOP	442: Intern/Physical Education
COOP	343: Co-op/Recreation
COOP	443: Intern/Recreation
COOP	344: Co-op/Coaching
COOP	444: Intern/Coaching
COOP	345: Co-op/Athletic Training
COOP	445: Intern/Athletic Training
COOP	346: Co-op/Water Safety
COOP	446: Intern/Water Safety
COOP	348: Co-op/History
COOP	448: Intern/History
COOP	349: Co-op/Humanities
COOP	449: Intern/Humanities
COOP	350: Co-op/Library Science
COOP	450: Intern/Library Science
COOP	351: Co-op/Media
COOP	451: Intern/Media
COOP	352: Co-op/Mathematics
COOP	452: Intern/Mathematics
COOP	353: Co-op/Military Science
COOP	453: Intern/Military Science
COOP	355: Co-op/French

COOP	455:	Intern/French
COOP	356:	Co-op/German
COOP	456:	Intern/German
COOP	357:	Co-op/Russian
COOP	457:	Intern/Russian
COOP	358:	Co-op/Spanish
COOP	458:	Intern/Spanish
COOP	360:	Co-op/Music
COOP	460:	Intern/Music
COOP	361:	Co-op/Piano
COOP	461:	Intern/Piano
COOP	362:	Co-op/Instrumental
COOP	462:	Intern/Instrumental
COOP	363:	Co-op/Vocal
COOP	463:	Intern/Vocal
COOP	364:	Co-op/Music Marketing
COOP	464:	Intern/Music Marketing
COOP	366:	Co-op/Physics
COOP	466:	Intern/Physics
COOP	368:	Co-op/Psychology
COOP	468:	Intern/Psychology
COOP	369:	Co-op/Counseling
COOP	469:	Intern/Counseling
COOP	370:	Co-op/Student Life Services
COOP	470:	Intern/Student Life Services
COOP	371:	Co-op/Student Affairs
COOP	471:	Intern/Student Affairs
COOP	372:	Co-op/Student Development
COOP	472:	Intern/Student Development
COOP	373:	Co-op/Upward Bound
COOP	473:	Intern/Upward Bound
COOP	374:	Co-op/Human Relations
COOP	474:	Intern/Human Relations
COOP	376:	Co-op/Special Education
COOP	476:	Intern/Special Education
COOP	377:	Co-op/Rehabilitative Sciences
COOP	477:	Intern/Rehabilitative Sciences
COOP	378:	Co-op/Learning Disabilities
COOP	478:	Intern/Learning Disabilities
COOP	379:	Co-op/Mental Retardation
COOP	479:	Intern/Mental Retardation
COOP	381:	Co-op/Speech Pathology
COOP	481:	Intern/Speech Pathology
COOP	382:	Co-op/Audiology
COOP	482:	Intern/Audiology
COOP	383:	Co-op/Speech
COOP	483:	Intern/Speech
COOP	384:	Co-op/Theatre
COOP	484:	Intern/Theatre
COOP	386:	Co-op/Nursing
COOP	486:	Intern/Nursing

COOP	387: Co-op/Medical Technology
COOP	487: Intern/Medical Technology
COOP	389: Co-op/Continuing Education
COOP	489: Intern/Continuing Education
COOP	390: Co-op/Academic Services
COOP	490: Intern/Academic Services
COOP	391: Co-op/Financial Aid
COOP	491: Intern/Financial Aid
COOP	392: Co-op/Research
COOP	492: Intern/Research
COOP	393: Co-op/Admissions
COOP	493: Intern/Admissions
COOP	395: Co-op/Life Experience
COOP	495: Intern/Life Experience
COOP	396: Co-op/Paralegal
COOP	496: Intern/Paralegal
COOP	397: Co-op/Planetarium
COOP	497: Intern/Planetarium

## Military Science

**Department of Military Science, Ronald W. Faulkner, LTC, Chair**

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**Professor:** LTC Ronald W. Faulkner; **Assistant Professors:** MAJ Jeff Emory, SGT Gwendolyn Lewis, CPT Michael Manley, CPT Darrell Deloach; **Civilian:** Mrs. Diane Simpson

The Military Science program provides students an opportunity to learn and practice the art of leadership. The program has been structured to give students practical experience in leading people and managing resources—training designed to prepare students to reach the pinnacle of their chosen profession.

The Military Science program enables students to learn about the military profession and the role it plays in our democratic system of government.

The Military Science curriculum offers students the opportunity to learn and apply management and leadership skills and to participate in such exciting and challenging activities as rappelling, land navigation, white-water rafting, and marksmanship. The classes enrich a course of study and may count toward graduation requirements. These courses open an additional career option to students, enabling them to gain commissions and serve as officers in the active Army, the Army Reserve, or the Army National Guard.

## Requirements for Enrollment

Enrollment in Military Science courses (MS 101, 102, 203, 204) is open to freshman or sophomore students without obligation to any military service.

Qualified students may continue in the Advanced Military Science Program (MS 305, 306, 407, 408) with approval of the Professor of Military Science. Those students are eligible to receive a \$100.00 per month subsistence allowance during the academic year. Upon successful completion they receive a commission as a Second Lieutenant in the U.S. Army, the Army Reserve, or the

Army National Guard. Qualified veterans and Junior ROTC graduates may receive advanced placement in the Basic course and receive a commission prior to graduation.

## What ROTC Includes

Equipment, uniforms, and textbooks are issued to enrolled students. Training is offered on military skills such as drill and ceremonies, rappelling, rope bridging, land navigation, first aid techniques, water safety, and tactics.

Opportunities are provided to examine the military profession in detail. This includes the active Army, Army Reserve, and the Army National Guard. Students successfully completing the Basic course are eligible to apply to enter the Advanced course. Upon successful completion of the Advanced course, a six-week summer camp, and graduation from Clarion University, the student is commissioned as a Second Lieutenant.

The ROTC program also includes a Professional Military Education requirement. This consists of academic courses outside of the Military Science curriculum in the fields of written communications, military history, human behavior, mathematics reasoning, and computer literacy. Courses in management and national security are recommended but not required.

## The Military Science Curriculum

The Military Science curriculum is divided into two phases: the Basic course, which includes the first and second academic years, and the Advanced course, which includes the third and fourth academic years. Students enrolled in the ROTC program may count credits in Military Science courses under the Personal Development area of the General Education distribution or as free electives toward their graduation requirements. A maximum of 14 hours of Military Science may be applied toward graduation.

### ***Basic Course***

8 Semester Hours

The first four semesters of Military Science constitute the Basic course. Classes meet one hour per week and cover the purpose, role, and the development of the U.S. Army, officer responsibilities and development, studies of topographical maps, and leadership. A one hour leadership lab accompanies each class stressing leadership and management skills through such vehicles as rappelling, water safety, land navigation, and other military skills. Basic course numbers and titles are subject to change. Check with the Military Science Department for details.

MS	101	World Military History: The Great Captains . . . . .	2 credits
MS	102	American Military History. . . . .	2 credits
MS	203	Fund. of Topographic Map Interpretation . . . . .	2 credits
MS	204	National Security Concepts. . . . .	2 credits

### ***Advanced Course***

The 300 and 400 series courses constitute the Advanced course of instruction for both men and women who desire a commission as a Second Lieutenant in the Active Army, Army Reserve, or the Army National Guard. This phase is composed of studies in advanced leadership and management, tactics, military

law, psychological and social factors which affect human behavior, and modern instructional and training techniques. Practical application is the rule and students have the opportunity to practice and polish their skills.

MS	305	Fundamentals of Organizational Leadership and Modern Learning/Training Relationships . . . . .	3 credits
MS	306	Study of Advanced Leadership and the Planning and Executing of Modern Tactical Operations . . . . .	3 credits
MS	407	Management of the Military Complex to Include Fundamentals of Military Law . . . . .	3 credits
MS	408	Seminar in Analysis and Management . . . . .	3 credits

## Leadership Laboratory

A practical experience designed for the application and improvement of leadership skills. Labs are concurrently scheduled in conjunction with all Military Science courses. Uniforms are worn by students during labs.

Field leadership exercises are held on weekends each semester offering students the opportunity to practice and enhance their military and leadership skills learned on campus.



# Course Descriptions

Academic calendar sequence in which course is offered follows each course description. The designated sequence is probable rather than guaranteed, and is subject to change.

Each semester—annually

Fall—first semester

Spring—second semester

On demand — course offered if potential enrollment warrants.

## Accounting

**ACTG 251: FINANCIAL ACCOUNTING 3 s.h.**

A study of the principles and procedures for collecting, recording, summarizing, and reporting financial information. Prerequisite: sophomore standing only at Clarion campus. Each semester, summer. Fall, annually at Venango.

**ACTG 252: MANAGERIAL ACCOUNTING 3 s.h.**

A study of the aspects of accounting that aid managers. Included are budgeting, cash behavior and systems, alternate choice decisions, international accounting aspects, and cash flow. Prerequisite: sophomore standing only at Clarion campus, and ACTG 251. Each semester, summer. Spring, annually at Venango.

**ACTG 253: FACTORY ACCOUNTING 3 s.h.**

This course presents fundamental accounting concepts and techniques applied in record keeping and accounting control of the production process. Prerequisite: ACTG 252. Fall, annually, only at Venango Campus.

**ACTG 254: PAYROLL ACCOUNTING**

This accounting course provides detailed coverage of payroll policy, records, wage calculation, deductions, and government reporting with an emphasis on tax form preparation. Prerequisite: ACTG 252. Spring, annually, only at Venango Campus.

**ACTG 255: FINANCIAL STATEMENT PREPARATION AND ANALYSIS 3 s.h.**

This course focuses on procedures for financial statement preparation and the use of accounting information as a basis for decision making by management, owners, creditors, and other users of financial statements. Prerequisite: ACTG 251. Fall, annually, only at Venango Campus.

**ACTG 256: INCOME TAX PROCEDURES AND FORMS 3 s.h.**

This course explains which types of income are taxable and which expenses are deductible. Both filling out and filing individual, partnership, and corporate tax returns will be covered. Prerequisite: ACTG 251. Spring, annually, only at Venango Campus.

**ACTG 350: INTERMEDIATE ACCOUNTING 3 s.h.**

A study of accounting theory and practice. Topics included are accounting for current assets, investments, plant and equipment, and intangibles. A special emphasis will be placed upon developing the student's technical and problem-solving ability. Prerequisite: ACTG 252. Each semester, summer.

- ACTG 351: ACCOUNTING FOR EQUITIES 3 s.h.**  
A study of accounting theory and practice. Topics included are accounting for current and long-term liabilities, corporate equity, pension plans, long-term leases, income taxes, changes in financial position, financial statement analysis, and price-level adjusted statements. A special emphasis will be placed upon developing the student's technical and problem-solving ability. Prerequisite: ACTG 350 or consent of instructor. Each semester, summer.
- ACTG 352: COST ACCOUNTING 3 s.h.**  
Basic consideration of cost principles, procedure, control and analysis. Cost accounting as a "tool" of management is stressed based on management information systems. Prerequisite: ACTG 252. Each semester, summer.
- ACTG 353: FEDERAL TAXES 3 s.h.**  
A study of federal income, estate, and gift taxation. Problems of compliance with the law by individuals, partnerships, corporations, estates, and trusts are considered. Prerequisite: ACTG 252. Each semester, summer.
- ACTG 354: AUDITING 3 s.h.**  
A study of the purposes, the ethical and legal environment, financial analysis, and selected operational techniques of auditing. Prerequisite: ACTG 351. Each semester, summer.
- ACTG 355: ADVANCED ACCOUNTING 3 s.h.**  
A consideration of modern development in accounting, including recent studies and pronouncements by accounting authorities such as the American Institute of Certified Public Accounts and the Securities and Exchange Commission. Included is a study of the problems of accounting for consolidation and partnership equity. A special emphasis will be placed upon developing the student's technical and problem-solving ability. Prerequisite: ACTG 351. Each semester, summer.
- ACTG 451: ACCOUNTING PROBLEMS 3 s.h.**  
A problem-oriented study of topics most often tested on the CPA exam. Included are inventory methods, long-term contracts, partnership, leases, consignments, installment sales, receivership, fiduciary accounting, and governmental accounting. Preparations for the practice portion of the CPA exam are emphasized. Prerequisite: ACTG 355. Each semester.
- ACTG 452: ADVANCED COST ACCOUNTING 3 s.h.**  
A study of advanced concepts of cost accounting as a means of providing useful quantitative information for decision making. Topics include inventory valuation, cost allocations, joint-product costs, process costing, accounting systems, profit center costs, and segment performance measuring. Prerequisite: ACTG 352. Each semester.
- ACTG 453: PROBLEMS IN FEDERAL TAXATION ACCOUNTING 3 s.h.**  
Federal Income Tax concepts and compliance problems of partnerships, corporations, estates, and trusts. Also a brief consideration of the concepts of social security, estate, and gift taxation. Prerequisite: ACTG 353. Each semester.
- ACTG 454: COMPARATIVE ACCOUNTING SYSTEMS 3 s.h.**  
The major objective of the course is to help the student to develop a holistic approach to the concepts and practices for the examination and exploration of accounting systems. Specialized accounting systems will be discussed in detail dependent upon the interest and desires of students. Prerequisites: ACTG 251, 252, 350, 351, 354, CIS 223 and 301. Each semester.
- ACTG 455: NOT-FOR-PROFIT ENTITIES 3 s.h.**  
A study of the principles and practices of budgeting and accounting for activities of entities that are operated for purposes other than making profits. Prerequisite: ACTG 351. Each semester.

**ACTG 461: INTERNATIONAL ACCOUNTING 3 s.h.**

The theory, practice, procedures and issues of accounting in representative foreign countries including important differences between domestic and international accounting. The international issues of currency translation, inflation, financial reporting, standards including auditing, and taxation will be considered. Prerequisite: ACTG 351 or consent of the instructor. Each semester.

**ACTG 490: CURRENT ACCOUNTING PRONOUNCEMENTS AND PRACTICE 3 s.h.**

A research study of current Financial Accounting Standards Board statements of standards, interpretations, concepts, exposure drafts and discussion memorandums. The internship experience and completed term paper will be discussed and integrated with the pronouncements. Prerequisite: COOP 420, Accounting Internship. Spring semester.

**ACTG 499: SPECIAL TOPICS IN ACCOUNTING 3 s.h.**

Various current topics affecting accounting practice and theory will be presented. Different topics will be covered from year to year as subjects of importance are identified. Prerequisite: ACTG 351 or consent of instructor. On demand.

## **Anthropology**

**ANTH 211: ANTHROPOLOGY 3 s.h.**

This course deals with the origin, diversification, and evolution of the human way of life (cultures) from extinct primitive systems to modern industrial civilizations. This course is an introduction to anthropology (the study of humankind) with emphasis on the nature and concept of culture. Some work is done in physical anthropology. Emphasis is placed on the simple and complex cultures of the world with specific readings in each category. Each semester.

**ANTH 213: INTRODUCTION TO BIOANTHROPOLOGY 3 s.h.**

A survey of the human species in time, place, and culture and the investigation of factors underlying human variation. No prerequisite. Each second year.

**ANTH 214: PRINCIPLES OF HUMAN ECOLOGY 3 s.h.**

A study of the functional inter-relationships of humankind and the biophysical environment. No prerequisite. Every second year.

**ANTH 250: PREHISTORIC NORTH AMERICA 3 s.h.**

The course examines the development of North American Indian cultures from the beginning of human migration in the late Pleistocene to the coming of Europeans. Emphasis will be on human interrelationships with the various New World environments in time and space which led to the rise of prehistoric cultures, food production, trade, etc. No prerequisite. Every second year.

**ANTH 251: HISTORIC INDIANS OF NORTH AMERICA 3 s.h.**

This course is an ethnographic survey of American Indians. Cultural processes, historic events, and ecological adjustments are explored in order to understand the diversity of Indian culture at the time of their discovery by Europeans. American Indian acculturation and contemporary Indian issues are also considered. No prerequisite. Every second year.

**ANTH 253: ARCHAEOLOGY OF EASTERN NORTH AMERICA 3 s.h.**

The course provides a detailed survey of prehistoric developments in North America east of the Mississippi from Late Pleistocene to the Colonial Period. The principal aim is to familiarize students with the prehistory of the Amerind populations in the area, including the gradual emergence of the Woodland pattern. Summers only.

**ANTH 290: INTRODUCTION TO FOLKLORE 3 s.h.**

The course covers the main aspects of oral traditions such as folklore, legend, myths, riddle, folksong, etc., and analyzes the relationship of oral traditions to literature. The systematic study of folklore, its methods, research approaches, and related subjects are investigated. No prerequisite. Every second year.

**ANTH 354: CULTURAL HISTORY OF ASIA AND AFRICA 3 s.h.**

A survey of major cultural trends of Old World cultures exclusive of Europe. Beginning with prehistoric Middle East, the spread of food production and its consequences is traced through space and time. Special emphasis is given to the rise and development of Asian cultural patterns. The second section of the course deals with African tribal cultures and their history. Every second year.

**ANTH 356: FIELD ARCHAEOLOGY 4 s.h.**

This course will give undergraduate students an opportunity to participate actively in all phases of archaeological field investigation of a limited section of the Allegheny river drainage in order to determine cultural sequence, settlement patterns, population density, economy, cultural influences, technologies, and human ecology. Procedures will include reconnaissance, testing of suspected sites, site survey, controlled excavation, site mapping, interpretation and recovery of specimens, and a final site report. Summers only.

**ANTH 357: INDIANS OF SOUTH AND CENTRAL AMERICA 3 s.h.**

A survey of Indian cultures from the beginnings in the Late Pleistocene to the coming of the Conquistadores; special emphasis is placed upon culture developments, the rise of states, native agriculture, and the development of arts and crafts, including architecture and ceremonial art. No prerequisite. Every second year.

**ANTH 358: WORLD PREHISTORY 3 s.h.**

This course covers the cultural development of humankind from the Lower Paleolithic to the beginnings of urbanism in the Bronze and Iron Age. The course examines human development in Europe, Africa, Asia, and the New World; draws comparisons between cultures; studies the diffusion of cultural traits; and summarizes recent developments in research. No prerequisite. Every second year.

**ANTH 359: PRIMITIVE SCIENCE AND TECHNOLOGY 3 s.h.**

This course is designed to provide a better understanding of the human relationship with and the utilization of environment. It traces the development which ultimately leads to the rise of technological societies. In investigating human attempts to come to an understanding of surrounding forces, the course provides a survey of the history of scientific thought. No prerequisite. Every second year.

**ANTH 361: WITCHCRAFT, MAGIC, AND RELIGION 3 s.h.**

This course is a cross cultural comparative analysis of human environment with the supernatural. The role of religion is explored and theories dealing with the nature and function of various aspects of supernaturalism are discussed from an anthropological perspective. No prerequisite. Every second year.

**ANTH 362: HISTORY AND METHODS OF ANTHROPOLOGY 3 s.h.**

This course provides a general overview of the history of anthropology as an academic discipline, combined with a survey of anthropological theory and research methods. Every second year.

**ANTH 363: HISTORICAL ARCHAEOLOGY 3 s.h.**

Designed to provide an introduction to the problems and methods of historical archaeology with special emphasis on North America. Usually to be taken in conjunction with ANTH 356 (Field Archaeology) as an alternative to ANTH 253 (Archaeology of Eastern North America.)

**ANTH 370: PRACTICUM IN MUSEOLOGY 3 s.h.**

The course is designed to provide undergraduates with an introduction to the role and operation of museums through lectures, field trips, student projects and individual research. No prerequisite. Every second year.

**ANTH 400: INDIVIDUAL RESEARCH 2 s.h.**

Individual research, designed as an advanced course in anthropology, provides for the student's individual approach to a specific problem, defined in conference with the instructor. Regular sessions with the faculty member in charge evaluate the progress of the work and chart its direction. Students are expected to acquire research techniques in dealing with their topics. All branches of anthropology may be used to select a topic. Credit and grades will be given only if the project (term paper, survey, investigation, etc.) has been completed to the satisfaction of the project advisor and the departmental chair. Prerequisite: ANTH 211. On demand.

**ANTH 401: INDIVIDUAL RESEARCH: ARCHAEOLOGY 2 s.h.**

Individual research, designed as an advanced course in archaeology, provides for the student's individual approach to a specific problem, defined in conference with the instructor. Regular sessions with the faculty member in charge evaluate the progress of the work and chart its direction. Students are expected to acquire research techniques in dealing with their topics. All branches of archaeology may be used to select a topic. Credit and grades will be given only if the project (term paper, survey, investigation, etc.) has been completed to the satisfaction of the project advisor and departmental chair. Prerequisites: ANTH 211, 356. On demand.

**ANTH 402: INDIVIDUAL RESEARCH: BIOANTHROPOLOGY 2 s.h.**

Individual research, designed as an advanced course in bioanthropology, provides for the student's individual approach to a specific problem, defined in conference with the instructor. Regular sessions with the faculty member in charge evaluate the progress of the work and chart its direction. Students are expected to acquire research techniques in dealing with their topics. All branches of bioanthropology may be used to select a topic. Credit and grades will be given only if the project (term paper, survey, investigation, etc.) has been completed to the satisfaction of the project advisor and the departmental chair. Prerequisites: ANTH 211, 213, 356, or the consent of instructor. On demand.

**SUMMER ARCHAEOLOGICAL FIELD SCHOOL 9 s.h.**

An integrated program especially designed to provide undergraduates with a practical and theoretical background in modern archaeological research. The program combines classroom and laboratory work with field research, including excavation. All participants must register for ANTH 253 (Archaeology of Eastern North America) or ANTH 363 (Historical Archaeology), and ANTH 356 (Field Archaeology.) Pennsylvania teachers may take the program for credit toward permanent certification.

## Art

**ART 110: THE VISUAL ARTS 3 s.h.**

This is an introductory art appreciation course dealing with form and content of art as well as the processes and products of art. It is intended to enrich the student's awareness and understanding of visual art forms. Each semester.

**ART 111: ART HISTORY I 3 s.h.**

A study of art forms from the western world including Prehistoric, Egyptian, Mesopotamian, Greek, Roman, Early Christian, Romanesque, and Gothic periods. Emphasis on stylistic and historical analysis. Fall semester.

- ART 112: ART HISTORY II 3 s.h.**  
A study of art forms from the western world beginning with the Renaissance through Baroque, Mannerism, Rococo, and French art of the 19th century. Emphasis on stylistic and historical analysis. Spring semester.
- ART 113: HISTORY OF ARCHITECTURE 3 s.h.**  
A survey of major architectural works primarily from the western world. Includes systems of construction and stylistic analyses as well as the development of modern architecture. Spring semester.
- ART 114: HISTORY OF 20TH CENTURY ART 3 s.h.**  
A study of the major movements and masters of painting and sculpture in Europe and the United States in the 20th century; its relation to other elements of culture, and its place in the historical tradition of Western art. Papers, reading assignments. Annually.
- ART 115: AFRICAN TRADITIONS IN ART 3 s.h.**  
A survey of the visual heritage of Africa south of the Sahara, focusing on the traditional arts of sculpture, masking, crafts, and rituals related to their use. Consideration will be given to the appearance of African traditions in the Western Hemisphere. On demand.
- ART 121: INTRODUCTION TO DRAWING 3 s.h.**  
An introductory course designed to develop the innate drawing ability of students by the study of animate and inanimate objects through the use of a variety of traditional techniques and tools. Required of art majors. Fall semester.
- ART 125: COLOR AND DESIGN 3 s.h.**  
A study of two-dimensional design concepts and their applications with an emphasis on the principles and elements of design. Required of all art majors. Fall semester.
- ART 126: THREE DIMENSIONAL DESIGN 3 s.h.**  
The exploration of three dimensional design forms in order to gain a deeper understanding of the elements and principles of design. Required of all art majors. Spring semester.
- ART 127: COMMERCIAL DESIGN 3 s.h.**  
An elective studio course designed to survey graphic design, product design and environmental design. The course material is based on performance and may encompass problems relative to designs people read, the design of things people use and design concerning where people live, work and play. On demand.
- ART 131: PAINTING I 3 s.h.**  
An introduction to painting in oil or acrylic in which the student explores basic materials and techniques of painting. Fundamentals of pictorial organization and visual expression will be stressed. Each semester.
- ART 141: SCULPTURE I 3 s.h.**  
Introductory studio course with experiences in conceiving and creating three dimensional sculptural forms in a variety of media with a variety of techniques. Each semester.
- ART 151: CERAMICS I 3 s.h.**  
Design and construction of clay pieces in varied techniques and approaches. Basic clay and glaze technology, hand building, throwing, turning, and firing processes. Each semester.
- ART 161: FIBER I 3 s.h.**  
An introduction to textile techniques and application of design principles, emphasizing weaving, dyeing, and the history of textile art. On demand.
- ART 165: FABRIC I 3 s.h.**  
Repeat pattern applied to fabric surfaces by stamping and silkscreen. On demand.

- ART 171: PRINTMAKING I** 3 s.h.  
Problems in composition utilizing basic techniques and principles of the printmaking processes, i.e., collage prints, lino cuts, engraving, calographs, and serigraphy. Each semester.
- ART 180: ARTS AND CRAFTS** 3 s.h.  
An enrichment course for students desiring basic experience with crafts, skills, techniques, and processes using a variety of materials and tools. Each semester.
- ART 181: JEWELRY I** 3 s.h.  
Design and construction of individual pieces of jewelry from sterling silver, semi-precious stones, exotic woods, and other materials. The course deals with soldering techniques, casting techniques, methods of setting stones, chain construction, and all methods known for fabricating jewelry for human adornment. Annually.
- ART 190: TEACHING ART IN THE ELEMENTARY GRADES** 3 s.h.  
A study of the place of art in the elementary school curriculum, along with an acquisition of the skills and knowledge needed to teach art. Classroom planning, presentation, motivation methods, & lesson plans will be developed in workshops or actual teaching situations. Each semester.
- ART 222: FIGURE DRAWING** 3 s.h.  
An introductory course designed to develop the innate drawing ability of students by direct observation of the human form through the use of a variety of traditional techniques and tools. Required of art majors. Spring semester.
- ART 232: PAINTING II** 3 s.h.  
Continued exploration of a wide range of materials and techniques with an emphasis on solving visual and color problems as a vehicle for personalized expression. Prerequisite: ART 131. Each semester.
- ART 242: SCULPTURE II** 3 s.h.  
Continuation and expansion of experiences and directions established in Sculpture I. Prerequisite: ART 141. Each semester.
- ART 252: CERAMICS II** 3 s.h.  
Students work with the technical aspects of ceramics-glaze formulation, glaze calculations; experiment with natural local clays and desired clay bodies, decorating methods, glazing, and firing techniques while pursuing individual interests. Students work on an independent level investigating interests leading to a final individual critique of work accomplished. Prerequisite: ART 151. Each semester.
- ART 262: FIBER II** 3 s.h.  
Continuation of introduction to textile techniques, development of design ability and knowledge of art textile processes. Prerequisite: ART 161. On demand.
- ART 266: FABRIC II** 3 s.h.  
Surface design processes and development of expressive imagery. Prerequisite: ART 165. On demand.
- ART 272: PRINTMAKING II** 3 s.h.  
Problems in color utilizing techniques and principles of the printmaking processes. Prerequisite: ART 171. Each semester.
- ART 282: JEWELRY II** 3 s.h.  
A continuation of study in the design and construction of jewelry pieces. Students continue advancing their skills and knowledge of metals, stones, woods, and other materials. Prerequisite: ART 181. Annually.

- ART 323: ADVANCED DRAWING 3 s.h.**  
Designed to allow students the opportunity to further develop their drawing skills. Special emphasis will be upon the development of expressive drawing. Offered concurrently with ART 121 and 222. Prerequisites: ART 121, 222. Each semester.
- ART 333: PAINTING III 3 s.h.**  
Learning about the materials and techniques of the modern masters by studying and emulating the concepts involved in the art movements of the 20th century. Prerequisite: ART 232. Each semester.
- ART 343: SCULPTURE III 3 s.h.**  
Continuation and expansion and directions established in Sculpture II. Prerequisite: ART 242. Each semester.
- ART 353: CERAMICS III 3 s.h.**  
The student explores the fundamentals of glaze tests, materials test, eutectics, the calculation of glazes, ceramic kilns, and their design. The materials used will be studied, along with the design of ceramic equipment and their special uses. Production of pots will be downplayed for the concentration on the technical aspects and equipment in the production of the pot. Prerequisite: ART 252. Restricted to art majors or permission of instructor. Each semester.
- ART 363: FIBER III 3 s.h.**  
Intermediate textile design and techniques. Research into the historical applications of art textile processes. Prerequisite: ART 262. On demand.
- ART 367: FABRIC III 3 s.h.**  
Research on a historical surface design process and intermediate studio work based on that process. Prerequisite: ART 266. On demand.
- ART 373: PRINTMAKING III 3 s.h.**  
Advanced problems in composition and color utilizing techniques and principles of intaglio, relief, planographic or stencil processes. (The student may choose 2 processes.) Prerequisite: ART 272. Each semester.
- ART 300: SPECIAL TOPICS IN ART**  
Topics of interest in various areas of art. The format will be selected by the instructor. Offered when faculty available.
- ART 400: SUPERVISED STUDY IN ART 1-6 s.h.**  
Opportunity to explore in depth an area of art according to need or interest. Regular weekly sessions with a faculty member to evaluate the progress of the work and chart its direction. Credit and grade will be given only if a scholarly paper or special project has been completed to the satisfaction of the faculty advisor. Prerequisite: Permission of instructor and department chair.
- ART 434: PAINTING IV 3 s.h.**  
An investigation into the expressive and visual aesthetic concepts of figure and portrait painting. Prerequisite: ART 333. Each semester.
- ART 435: PAINTING V 3 s.h.**  
Continuation of Painting IV. Prerequisite: ART 434. Each semester.
- ART 436: PAINTING VI 3 s.h.**  
Continuation of Painting V. Prerequisite: ART 435. Each semester.
- ART 444: SCULPTURE IV 3 s.h.**  
Continuation of Sculpture III. Prerequisite: ART 343. Each semester.



ART 445:	SCULPTURE V	3 s.h.
Continuation of Sculpture IV. Prerequisite: ART 444. Each semester.		
ART 446:	SCULPTURE VI	3 s.h.
Continuation of Sculpture V. Prerequisite: ART 445. Each semester.		
ART 454:	CERAMICS IV	3 s.h.
Students work and set goals in their own creative interests for a semester of work. Students who choose handbuilding or thrown pottery, begin work toward a portfolio for a career or entrance into an M.F.A. program. Prerequisite: ART 353. Restricted to art majors or permission of instructor. Each semester.		
ART 455:	CERAMICS V	3 s.h.
Continuation of Ceramics IV. Prerequisite: ART 454. Each semester.		
ART 456:	CERAMICS VI	3 s.h.
Continuation of Ceramics V. Prerequisite: ART 455. Each semester.		
ART 464:	FIBER IV	3 s.h.
Problems in textile design emphasizing independent historical research and studio production. Prerequisite: ART 363. On demand.		
ART 465:	FIBER V	3 s.h.
Continuation of Fiber IV. Prerequisite: ART 464. Each semester.		
ART 466:	FIBER VI	3 s.h.
Continuation of Fiber V. Prerequisite: ART 465. Each semester.		
ART 468:	FABRIC IV	3 s.h.
Research into hand or industrial technologies in surface design, and development of personal imagery. Prerequisite: ART 367. On demand.		
ART 469:	FABRIC V	3 s.h.
Continuation of Fabric IV. Prerequisite: ART 468. Each semester.		
ART 470:	FABRIC VI	3 s.h.
Continuation of Fabric V. Prerequisite: ART 469. Each semester.		
ART 474:	PRINTMAKING IV	3 s.h.
Advanced problems utilizing one technique of printmaking. Prerequisite: ART 373. Each semester.		
ART 475:	PRINTMAKING V	3 s.h.
Continuation of Printmaking IV. Prerequisite: ART 474. Each semester.		
ART 476:	PRINTMAKING VI	3 s.h.
Continuation of Printmaking V. Prerequisite: ART 475. Each semester.		

## Biology

BIOL 111:	BASIC BIOLOGY	4 s.h.
This course deals with the principles of biology. Topics include cellular structure and physiology, growth and repair, reproduction and development, control, sources of food energy, inheritance and people's interrelationship with their biological environment. The classification of plants and animals is reviewed briefly. Credit not to be applied toward Biology major. Each semester.		

- BIOL 153: INTRODUCTIONAL ANIMAL BIOLOGY** 4 s.h.  
A survey of the animal kingdom, emphasizing structural, physiological and evolutionary relationships. The laboratory exercises reflect this approach; dissections and experimental procedures are also introduced. Three lectures and three laboratory hours weekly. Each semester.
- BIOL 154: INTRODUCTIONAL PLANT BIOLOGY** 4 s.h.  
Complementary to BIOL 153. A phylogenetic approach to the study of the plant kingdom, with emphasis on the evolution of plants, life cycle, reproductive patterns, physiology, morphology, and genetics. Two hours lecture and four hours laboratory weekly. Each semester.
- BIOL 201: GENETICS** 3 s.h.  
A study of the principles of inheritance in plants, animals, and microorganisms. Topics include: Mendelian genetics, linkage, recombination, cytogenetics, microbial genetics, human genetics, and molecular genetics. Three lectures and two laboratory hours weekly. Prerequisite: BIOL 153, 154 and CHEM 254 or consent of the instructor. Each semester.
- BIOL 202: PRINCIPLES OF ECOLOGY** 3 s.h.  
Interaction of organisms and their biotic and abiotic environment; population dynamics and interactions; the reality of communities; energy transfer with an ecological system; components of the ecosystem. Two lectures and three laboratory hours weekly. One weekend field trip costing approximately \$35 per student. Prerequisites: BIOL 153 and 154 or equivalent or consent of the instructor. Each semester.
- BIOL 203: CELL BIOLOGY** 3 s.h.  
Structure, biochemistry, and function of plant and animal cells. Two lectures and three laboratory hours weekly. Prerequisites: BIOL 153, 154, and CHEM 153, 154, 163, 164 and 254 or their equivalents or consent of the instructor. Each semester.
- BIOL 257: BIOLOGY OF AGING** 3 s.h.  
A study of current views of animal aging with specific reference to the causes and effects of aging in human organ systems. Three discussion periods weekly. Prerequisite: BIOL 111: Basic Biology or BIOL 153: Introductory Animal Biology or equivalent. Not for biology majors.
- BIOL 258: ANATOMY AND PHYSIOLOGY I** 3 s.h.  
A study of the normal structure of the human body and how it functions. Special attention is given to the reproductive, skeletal, muscular, nervous, and endocrine systems and their interrelationships. Two lectures and two lab hours weekly. Fall, annually. Venango Campus. Not for Biology majors.
- BIOL 259: ANATOMY AND PHYSIOLOGY II** 3 s.h.  
A continuation of BIOL 258, Anatomy and Physiology I. This course includes the circulatory, respiratory, digestive, urinary, and integumentary systems and their interrelationships. Two lectures and two laboratory hours weekly. Prerequisite: BIOL 258. Spring, annually. Venango Campus. Not for Biology majors.
- BIOL 260: MICROBIOLOGY** 3 s.h.  
A study of microorganisms including viruses, bacteria, fungi, and protozoa, with emphasis on those associated with human health and disease. Consideration is given to immunity and resistance to infectious diseases and to their epidemiological and public health aspects. Laboratory emphasis is on pathogenic bacteria and the bacteriological and microscopic techniques. Two lectures and three laboratory hours weekly. Fall and spring semesters. Venango Campus. Not for Biology majors.

**BIOL 341: GENERAL MICROBIOLOGY 4 s.h.**

A study of microorganisms including viruses, fungi, and bacteria. Culturing, isolation, classification, and ecology of microscopic life from air, water, soil, and dairy products including beneficial and pathogenic forms. Two lectures and six laboratory hours weekly. Prerequisite: BIOL 203 and CHEM 154. Each semester.

**BIOL 352: TAXONOMY OF VASCULAR PLANTS 3 s.h.**

Systems of classification; collection and identification of flowering plants and ferns of the region; use of keys and herbarium collections. Prerequisites: BIOL 153 and 154. On demand.

**BIOL 353: ORNITHOLOGY 3 s.h.**

An introduction to the biology of birds. Lectures deal with internal and external adaptation for aerial travel, classification, migration, habitats, plumage changes, nesting habits and ecologic relations. Two lectures and three laboratory or field trip hours weekly. Spring, even numbered years.

**BIOL 354: ENTOMOLOGY 3 s.h.**

A general study of insects including structure, physiology, classification, economic importance, and relationships. Two lectures and three hours of laboratory or field work weekly. Fall, even numbered years.

**BIOL 360: PROBLEMS IN BIOLOGY 1-4 s.h.**

Acquaints the student with skills and techniques used in research. The student identifies a problem for investigation and completes all phases of its study including the writing of a research report. Approval must be secured prior to preregistration from the staff member who will direct the student.

**BIOL 400: SPECIAL TOPICS 1-6 s.h.**

Advanced topics in various areas of biology. The format used will be selected by the professors as most suitable to the study. The course may be offered on request of students, subject to the availability of staff. Enrollment by consent of the instructor. On demand.

**BIOL 401: RADIATION BIOLOGY 3 s.h.**

A course presenting the fundamental aspects of the science of radiology with emphasis on biological applications. The topics studied are physical and genetic effects of radiation on plants and animals; radioactive fall-out and its biological consequences; application of radioisotopes in biological research; and use of radiation sources and detectors. Prerequisite: One year of chemistry. Spring, annually.

**BIOL 420: VERTEBRATE BIOLOGY AND SYSTEMATICS 3 s.h.**

A survey course dealing with the various aspects of classification, evolutionary relationships, morphology, zoogeography, ethology, ecology, and physiology of vertebrates, with special reference to those from Pennsylvania. If BIOL 357 has been taken, permission of instructors of both courses must be secured to elect BIOL 420. Prerequisites: BIOL 153 and BIOL 202, or permission of the instructor. Spring, odd numbered years.

**BIOL 424: FRESHWATER ICHTHYOLOGY 1 s.h.**

Identification of families and species of fishes from the eastern United States, with emphasis on Pennsylvania forms. Two clock hours weekly. PA fishing license required. Prerequisite: BIOL 202. Fall, odd numbered years.

**BIOL 425: FISHERIES BIOLOGY 3 s.h.**

Ecology of fish populations including taxonomy identification, age and growth, population estimation and analysis, food habits, management, and environmental requirements. Application of microcomputers in fisheries work will be emphasized in data analysis. Five clock hours weekly, including laboratory. Prerequisite: Environmental Biology or consent of the instructor and PA fishing license required. Fall, odd numbered years.

- BIOL 443: VIROLOGY 3 s.h.**  
A study of plant, animal, and bacterial viruses with emphasis on biochemistry, structure, life cycles, and disease-causing mechanisms. Three clock hours per week. Prerequisites: CHEM 453, BIOL 341, or consent of the instructor. Fall, annually.
- BIOL 444: IMMUNOLOGY 4 s.h.**  
An introduction to the fundamental concepts of immunology, immunochemistry, serology, and the role of immunology in epidemiologic studies. Three lectures and three laboratory periods weekly. Prerequisite: BIOL 341 or permission. Fall, annually.
- BIOL 446: PATHOGENIC MICROBIOLOGY 4 s.h.**  
A study of the bacteria, fungi, and viruses which cause human disease. Laboratory emphasis is on isolation and identification of pathogens and on elementary immunology. Two lectures and four laboratory hours weekly. Prerequisite: BIOL 341. Spring, annually.
- BIOL 450/550: CELL PHYSIOLOGY 4 s.h.**  
The study of the molecular dynamics of eukaryotic cells. The major topics will include the functional and structural organization of the cell, the cell as a unit of inheritance, and the cell as a biochemical transducer. Two lecture sessions and four laboratory hours per week. Prerequisites: Completion of BIOL 153, 154, 201, 203, and CHEM 254 or permission of the instructor.
- BIOL 451: ANIMAL PHYSIOLOGY 3 s.h.**  
Study of the comparative physiology of animals, includes water and ion regulations, circulation, respiration, nutrition, nervous activity, endocrine functions, and responses to temperature, light, gases, and pressure. Two lectures and three hours laboratory weekly. Prerequisites: BIOL 203 and CHEM 254 or permission of instructor. Each semester.
- BIOL 452: PLANT PHYSIOLOGY 3 s.h.**  
Life processes and responses of plants to the environment. Topics include water relations, transpiration, translocation, photosynthesis, respiration, metabolism, plant hormones and morphogenesis, photoperiodism, temperature responses, environmental and stress physiology. Two lectures and three hours laboratory weekly. Prerequisite: BIOL 201, 203, and CHEM 254. Spring, odd-numbered years.
- BIOL 453: PATHOPHYSIOLOGY: ENDOGENOUS AGENTS 4 s.h.**  
The study of mechanisms by which disease occurs in humans. The course emphasizes responses to the disease process, and the effects of pathophysiologic mechanisms on the normality of cell, tissue, organ and system functions, and the response of the body to the disease process. Prerequisites: Prior courses in Physiology desired. Two years of study in biology or permission of instructor. Spring, annually.
- BIOL 454: PATHOPHYSIOLOGY: EXOGENOUS AGENTS 4 s.h.**  
The study of mechanisms by which disease occurs in humans. Emphasis in this course is on disease related to heredity, physical, chemical, and biological stressors. Fall, annually.
- BIOL 455/555: ENDOCRINOLOGY 3 s.h.**  
A survey of the chemical and physiological principles of hormonal integrations in animals. Three hours lecture/week. Prerequisite: BIOL 450 or permission of instructor. Spring, annually.
- BIOL 460: COMPARATIVE VERTEBRATE ANATOMY 3 s.h.**  
This course traces the most important trends in the evolution of basic structures in vertebrate lines, and conveys an appreciation of how the mammals came to possess the combination of characters that make this group unique. Two lectures and three laboratory hours weekly. Prerequisites: BIOL 153, 154. Spring, even numbered years.

**BIOL 461: VERTEBRATE EMBRYOLOGY** **3 s.h.**

A descriptive study of the development of vertebrates, including early processes and the formation of organ systems. Two lectures and three laboratory hours weekly. Prerequisite: One year of biology. Spring, odd numbered years.

**BIOL 462: HISTOLOGY** **3 s.h.**

A study of the microscopic structure of tissues comprising the organ system of animals, including humans. One lecture and two double-period laboratories. Prerequisite: One year of biology. On demand.

**BIOL 464: DEVELOPMENTAL BIOLOGY** **3 s.h.**

A study of the major processes in development and their underlying mechanisms. Includes a descriptive study and mechanisms such as differentiation, induction, and morphogenesis. Materials deal primarily with animal development. Two lectures and three laboratory hours weekly. Prerequisites: BIOL 153, 154, 201, and General Chemistry. Fall, annually.

**BIOL 470: ANIMAL ECOLOGY** **3 s.h.**

A course dealing with the interrelationships of animals and their environment, including physical and biological factors. Discussions and investigations will include animal distribution, predator-prey interrelationships, competition, species diversity, reproduction, and community organization. Field and laboratory studies included. Prerequisite: BIOL 202. Spring, even numbered years.

**BIOL 471: PLANT ECOLOGY** **3 s.h.**

A study of the structure, development, and causes of distribution of plant communities based upon individual studies of the major plants in each group. Emphasis upon plant associations in western Pennsylvania visited during the course. Prerequisite: BIOL 202. On demand.

**BIOL 472: PARASITOLOGY** **3 s.h.**

A study of parasites in relation to human beings and their domesticated animals. Emphasis is placed upon morphology and life histories in addition to the ecology of the parasite. Two lectures and three laboratory hours weekly. Fall, annually.

**BIOL 478: BIOME STUDIES** **3 s.h.**

A travel-study program which offers opportunities for study in the various biomes, e.g., grasslands, montane, seashore, etc. Summers, on demand.

**BIOL 482: EVOLUTION AND POPULATION GENETICS** **3 s.h.**

This course examines modern evolutionary theory. Topics include the gene pool concept, adaptive evolutionary forces and non-adaptive evolutionary forces in population, population laws, evidence of evolution, mechanisms of diversity, punctuated equilibrium, and hominid evolution. Fall, even numbered years.

**BIOL 483: MOLECULAR BIOLOGY** **3 s.h.**

A study of the structural and functional relationships of the major biological macromolecules, with emphasis on nucleic acid biology. Current systems, methods, and applications of Biotechnology, including recombinant DNA techniques, will be emphasized in the laboratory. Two lectures and three laboratory hours weekly. Spring, annually.

**BIOL 491: BIOGEOGRAPHY** **3 s.h.**

The subject matter will cover aspects of the distribution of plants and animals. Main topics of concern will include interpretive approaches to biogeography, paleobiogeographic evidence of past distributions, the centers of origin of various groups, mechanics and routes of dispersal and colonization, and the dynamics of extinction. Prerequisites: BIOL 201 and BIOL 202 or permission of the instructor. Fall, odd numbered years.

**BIOL 492/592: ETHOLOGY** 3 s.h.

A study of the biological concepts of animal behavior. An investigation of topics such as sensory receptors, internal mechanisms, genetics, learning and habituation, social organization, and communication. Laboratory exercises involve techniques of observation and experiments in animal behavior. Two lectures and three hours laboratory or field work weekly. Prerequisites: BIOL 202 or permission of the instructor. Fall, odd numbered years.

**BIOL 499: UNDERGRADUATE RESEARCH IN BIOLOGY** 1-4 s.h.

This course is intended to give upper-level undergraduate students an experience in biological research. The student will identify a problem for investigation and complete all phases of its study, including the writing of a research report. Prerequisites: Second semester junior or senior standing with a 3.0 QPA overall, a 3.0 QPA in Biology or the consent of the Department. Limited to a total of 4 credits during an undergraduate career. Students seeking approval for a BIOL 499 project must complete the BIOL 499 registration form securing signatures of the academic advisor and project director. BIOL 360 and 499 may not be used for the same project.

## **Business Administration**

**BSAD 240: LEGAL ENVIRONMENT I** 3 s.h.

Legal Environment I is a survey course of law and society. Its purpose is to orient students to the judicial systems of the United States and the legal remedies and mechanisms at their disposal. It compares and contrasts both civil and equitable court functions through the illustrations of common law contracts, torts, criminal law, property law and the administration of decedents' estates. Each semester at Clarion Campus. Spring, annually at Venango.

**BSAD 241: LEGAL ENVIRONMENT II** 3 s.h.

This course is an application of the concepts attained in BSAD 240, Legal Environment I, in a business context. Emphasis is placed on general substantive business law topics; i.e.: agency, partnerships, corporations, sales, negotiable instruments; and real property. Prerequisite: BSAD 240. Each semester at Clarion Campus. Fall, annually at Venango.

**BSAD 242: METHODS OF LEGAL RESEARCH** 3 s.h.

Students learn the traditional legal research materials and brief writing techniques including use of digests and citators. The course also emphasizes legal research in the area of Administrative Law. Prerequisite: BSAD 240. Fall, annually, only at Venango.

**BSAD 245: FIELD EXPERIENCE** 1 s.h.

An early exposure to types of legal practices for various types of legal programs including community programs, institutions, and courts. Prerequisite: BSAD 240 and 242. Spring, annually, only at Venango.

**BSAD 437: INTERNATIONAL BUSINESS SEMINAR** 3-6 s.h.

The focus on this course is on developing an understanding of the problems and opportunities faced by international organizations. In order to best achieve both micro and macro perspectives in the study of international aspects of the business, students enrolled will visit businesses abroad for discussions with top-level executives. In addition to the international travel, the students will meet with the instructor for a series of briefing and debriefing sessions. An additional three credits may be taken (for a total of 6) on an individualized basis. Prerequisite: MGMT 320. Junior standing.

**BSAD 490: ADMINISTRATIVE DECISION MAKING** 3 s.h.

This course requires the student to synthesize what had been learned in the separate business fields and to utilize this knowledge in the analysis of complex problems of various businesses—from single proprietorships to multinationals. This is the capstone course for a

degree in business administration. Prerequisite: MGMT 320, MKTG 360 and FIN 370. Each semester.

**BSAD 491: INDEPENDENT STUDIES IN BUSINESS** 1-3 s.h.

Opportunity to explore in depth a problem or area of business under the direction of a faculty member of the college. Prerequisite: 2.75 grade point average and consent of both instructor and department head. Maximum credit granted in BSAD 491 is 6 credits.

**BSAD 494: BUSINESS EXECUTIVE'S LECTURE** 1 s.h.

The course is designed to introduce the student to successful business practices. The course will call upon several prominent business men and women from the local area to give a series of lectures concerning their business philosophies and practices. An objective of the course is to assist the student in bringing together knowledge attained from the business curriculum and to suggest practical applications of that knowledge. Prerequisite: MGMT 320.

## Chemistry

*\*No student may take for credit, a chemistry course at the 100 level after having successfully completed any chemistry course numbered 300 or above.*

**CHEM 050: PREPARATION FOR CHEMISTRY** 3 s.h.

This course is intended for students who may not have sufficient background for college chemistry. Placement in this course is recommended by the Chemistry Department based on high school record and test scores. Emphasis is on developing verbal and mathematical skills, abstract reasoning, and a basic scientific vocabulary. The credits for this course do not count toward graduation. Spring, annually.

**PHSC 111: BASIC PHYSICAL SCIENCE: CHEMISTRY** 3 s.h.

This course is intended for non-science majors and does not assume familiarity with chemistry. It does not count toward requirements for science majors, but can be applied to fulfill the general education math-science requirements for non-science majors.

Selected chemical principles are explored with the purpose of providing a background that will enable the student as a citizen to understand issues involving the interaction of science and society; brief experiments are often included. Students who prefer a more traditional chemistry course may elect either CHEM 151 or 153 to fulfill their general education requirements. No prerequisites. Each semester.

**CHEM 151: CHEMICAL PRINCIPLES I\*** 4 s.h.

Intended for chemistry majors, pre-medical students, and others who desire a rigorous introductory course. CHEM 151 and 152 comprise the foundation for all subsequent courses in the major sequence. Principal topics include atomic theory, gases, solids, and liquids. A strong background is desirable but not required. Students must concurrently schedule CHEM 161. Four hours lecture. Fall, annually.

**CHEM 152: CHEMICAL PRINCIPLES II\*** 4 s.h.

Continuation of CHEM 151. Principal topics include second law, equilibrium, acids and bases, electrochemistry, kinetics, radiochemistry, and descriptive chemistry. Prerequisite: CHEM 151. Students must concurrently schedule CHEM 162. Four hours lecture. Spring, annually.

**CHEM 161: CHEMICAL PRINCIPLES LABORATORY I** 1 s.h.

Laboratory exercises to exemplify and augment the material in CHEM 151. This course must be taken concurrently with CHEM 151 unless it is being repeated. Three hours laboratory. Fall, annually.

- CHEM 162: CHEMICAL PRINCIPLES LABORATORY II** 1 s.h.  
Laboratory exercises to exemplify and augment the material in CHEM 152. This course must be taken concurrently with CHEM 152 unless it is being repeated. Three hours laboratory. Spring, annually.
- CHEM 153: GENERAL CHEMISTRY I\*** 3 s.h.  
This is the initial course in the fundamental concepts of chemistry for students not majoring in chemistry; it can serve as a preparation for CHEM 254 or as a terminal course. The major topics included are atomic theory and structure, stoichiometry, chemical bonding, and the physical states of matter. Must be taken concurrently with CHEM 163. Three hours lecture. Fall, annually.
- CHEM 154: GENERAL CHEMISTRY II\*** 3 s.h.  
Continuation of CHEM 153. This course includes a discussion of mixtures, thermodynamics equilibria, kinetics, acids and bases, oxidation-reduction, and radioactivity. Must be taken concurrently with CHEM 164. Prerequisite: CHEM 153. Three hours lecture. Spring, annually.
- CHEM 163: GENERAL CHEMISTRY LABORATORY I** 1 s.h.  
Laboratory exercises to exemplify and augment the material in CHEM 153. This course must be taken concurrently with CHEM 153 unless it is being repeated. Three hours laboratory. Fall, annually.
- CHEM 164: GENERAL CHEMISTRY LABORATORY II** 1 s.h.  
Laboratory exercises to exemplify and augment the material in CHEM 154. This course must be taken concurrently with CHEM 154 unless it is being repeated. Prerequisites: CHEM 153, 163. Three hours laboratory. Spring, annually.
- CHEM 205: NUTRITION** 3 s.h.  
An introduction to the basic principles of human nutrition. The structure of proteins, fats, carbohydrates, vitamins and minerals and their role in metabolism are explored. Nutritional needs of various age groups, nutrition and disease, and recent research in nutritional problems are discussed. Required of all B.S. Nursing majors. Prerequisite: one semester of general chemistry or consent of instructor.
- CHEM 211: SCIENCE AND SOCIETY** 3 s.h.  
A major goal of this course is to equip the citizen to make intelligent choices and to take effective action in areas where science or technology appear to pose threats, offer benefits, demand funding, or require regulation. For this purpose, and for the additional goal of achieving a minimum level of scientific literacy, the needed technical principles are presented in non-mathematical fashion. Emphasis is placed on the similarities and differences between life and other chemical processes, and on the consequences of the Second Law of Thermodynamics. Open to students in all academic areas. Prerequisite: Sophomore standing. Three hours lecture. Offered occasionally.
- CHEM 251: ORGANIC CHEMISTRY I** 3 s.h.  
The study of bonding, structure, stereochemistry, nomenclature, and the mechanisms of free radical substitution, nucleophilic substitution, electrophilic addition and electrophilic aromatic substitution. Organic syntheses, reactions and methods will be emphasized. Students must concurrently schedule CHEM 261. Prerequisites: CHEM 151, 152 or 153, 154. Three hours lecture. Fall, annually.
- CHEM 252: ORGANIC CHEMISTRY II** 3 s.h.  
A continuation of CHEM 251. A discussion of functional groups, their preparation and reactions. Synthesis and mechanisms will be emphasized. Students must concurrently schedule CHEM 262. Prerequisite: CHEM 251. Three hours lecture. Spring, annually.



**CHEM 257: ORGANIC SPECTROSCOPY 2 s.h.**

The application of modern spectroscopic techniques to the determination of the structures of organic compounds. The techniques of infrared, nuclear magnetic resonance, and mass spectroscopy are discussed with emphasis on their application toward the elucidation of structures of organic compounds. Necessary theoretical background and applications are presented. Required of all chemistry majors and must be taken concurrently with CHEM 252. Prerequisites for other students: CHEM 254, 264 and consent of instructor.

**CHEM 261: ORGANIC CHEMISTRY LABORATORY I 1 s.h.**

The laboratory will consist of experiments using important techniques, natural product isolation and synthesis using modern instrumental methods. This course must be taken concurrently with CHEM 251 unless it is being repeated. Three hours laboratory. Fall, annually.

**CHEM 262: ORGANIC CHEMISTRY LABORATORY II 1 s.h.**

This laboratory will consist of complex synthesis and organic qualitative analysis, both using modern instrumentation. The important spectroscopic methods of infrared and nuclear magnetic resonance spectroscopy and mass spectrometry will be emphasized. This course must be taken with CHEM 252 unless it is being repeated. Prerequisite: CHEM 261. Three hours laboratory. Spring, annually.

**CHEM 254: INTRODUCTORY ORGANIC CHEMISTRY 3 s.h.**

A course which surveys the field of elementary organic chemistry with emphasis on nomenclature, simple reactions and mechanisms, and the structure of organic compounds, together with their relation to biology. This course does not count toward the requirements for a major in chemistry and must be taken concurrently with CHEM 264 unless it is being repeated. Prerequisites: CHEM 152 or 154. Three hours laboratory. Each semester.

**CHEM 264: INTRODUCTORY ORGANIC CHEMISTRY LABORATORY 1 s.h.**

Important techniques, synthesis and functional group analyses of organic compounds. This course must be taken concurrently with CHEM 254 unless it is being repeated. Three hours laboratory. Each semester.

**CHEM 255: INDUSTRIAL CHEMISTRY 3 s.h.**

This course deals with the application of theories, laws, and calculations of chemistry to industrial processes. This work is supplemented by reading of current literature and trips to chemical industries. Prerequisites: CHEM 151, 152, or 153, 154. Offered occasionally.

**CHEM 270: CHEMICAL INFORMATION 1 s.h.**

This course covers sources, organization, and the effective use of chemical information. Aspects of both printed and computer based chemical information sources will be discussed. Problem assignments will provide illustration and practice in effective searching of the chemical literature. Co-requisite: CHEM 251, 261. Fall, annually.

**CHEM 320: APPLICATIONS OF COMPUTERS IN CHEMISTRY 3 s.h.**

This course is concerned with the application of computers in chemistry. After a review of the scientific programming languages, attention will be focused on the use of computer methods for problem solving in such areas as theoretical, analytical, and organic chemistry. Coverage will include data acquisition methods, experimental controls, chemical structure elucidation, and chemical information retrieval methods. Prerequisites: CHEM 152 or 154, and CIS 151 or CIS 163 (may be taken concurrently). Offered occasionally.

## Techniques and Instruments I-V

Utilizing the department's complete line of modern equipment, this sequence of laboratory-centered courses has been designed to develop or reinforce skills, techniques, theories, and familiarity with instruments used in all branches of chemistry. There is a progression from those operations and concepts that are essential in many areas, including biological sciences, to those that are somewhat specialized but yet of considerable importance to most chemists. The last courses in the sequence permit some individual choice of topics.

The following are representative of the total content: classical wet analytical techniques, quantitative spectrophotometry, calorimetry, electrochemistry, glass-blowing, vacuum-line operations, thermodynamic and kinetic studies, electronic data processing, characterization of macro-molecules, surface studies, molecular and crystal structure determinations by diffraction and spectral methods, quantitative separations, electro-analytical methods, nuclear magnetic resonance, radiochemical techniques, syntheses, basic electronic circuitry.

Course details and prerequisites are listed below.

**CHEM 351: INTRODUCTION TO TECHNIQUES AND INSTRUMENTS 3 s.h.**

The theory and applied techniques and instrumentation of analytical chemistry for majors in the allied health professions. Some of the topics included are spectrophotometry, methods based on equilibrium systems, electroanalytical methods and separation procedures as applied to health professions. This course does not count toward the requirements for a major in chemistry. Students must concurrently schedule CHEM 361. Prerequisite: CHEM 152 or 154. Three hours lecture. Spring, annually.

**CHEM 352: TECHNIQUES AND INSTRUMENTS I 4 s.h.**

This course serves students both in chemistry and in related fields. Prerequisites: CHEM 152 or 154. Two hours lecture, six hours laboratory. Fall, annually.

**CHEM 356: TECHNIQUES AND INSTRUMENTS II 2 s.h.**

Prerequisite: CHEM 354. This course will normally be taken concurrently with CHEM 355. Six hours laboratory. Spring, annually.

**CHEM 357: TECHNIQUES AND INSTRUMENTS III 3 s.h.**

Prerequisites: CHEM 352, 354; CHEM 355 concurrently, or consent of department. Two hours lecture, three hours laboratory. Spring, annually.

**CHEM 361: INTRODUCTION TO TECHNIQUES AND INSTRUMENTS LABORATORY 1 s.h.**

Laboratory exercises to exemplify and augment materials in CHEM 351. This course must be taken concurrently with CHEM 351 unless it is being repeated. Three hours laboratory. Spring, annually.

**CHEM 461: TECHNIQUES AND INSTRUMENTS IV 2 s.h.**

Prerequisite: CHEM 357. One hour lecture, three hours laboratory. Fall, annually.

**CHEM 354: PHYSICAL CHEMISTRY I 4 s.h.**

This course is concerned primarily with the principles of thermodynamics. Kinetics is discussed in the latter portion of the term. The laws of thermodynamics are applied to many problem solving situations. Calculus is used heavily, and a basic familiarity with the handling of simple differentials and integrals is necessary. Kinetics is treated from experimental and mechanistic points of view. Prerequisites: CHEM 152, 162; PH 252 or 259; MATH 271. Four hours lecture. Fall, annually.

**CHEM 355: PHYSICAL CHEMISTRY II** 4 s.h.

Both the classical wave formulation and the concept of operators are developed as approaches to the study of quantum mechanics, and simple one-electron problems are solved. This groundwork is then extended to molecular problems. Spectroscopy is examined in detail, particularly as a tool in the determination of molecular structures. Powder and single-crystal x-ray diffraction techniques are discussed and their use as research tools investigated. Prerequisite: CHEM 354. Four hour lecture. Spring, annually.

**CHEM 359: ADVANCED ORGANIC CHEMISTRY** 3 s.h.

A study of reaction mechanism, synthetic methods, and structure elucidations. Emphasis is placed on correlation of structure and reactivity and on stereochemistry. Prerequisites: CHEM 252, 355. Three hours lecture. Spring, annually.

**CHEM 453: BIOCHEMISTRY** 3 s.h.

An introduction to modern cellular biochemistry. A study of proteins, enzymes, nucleic acids and fats; the metabolic transformations of amino acids, carbohydrates, lipids, protein synthesis and photosynthesis; and the respiratory chain and oxidation phosphorylation. Prerequisite: CHEM 251 or 254. Three hours lecture. Spring, annually.

**CHEM 455: ADVANCED PHYSICAL CHEMISTRY** 3 s.h.

This course is concerned primarily with statistical mechanics and additional aspects of quantum mechanics. Prerequisite: CHEM 355. Offered occasionally.

**CHEM 456: ADVANCED INORGANIC CHEMISTRY** 3 s.h.

Various concepts of bonding, encountered in previous courses, are extended and compared to gain some appreciation of their uses and shortcomings. Considerable attention is given to steric relationships in many environments. The descriptive chemistry includes recently discovered compound types as well as the classical period-group—subgroup patterns of behavior. Prerequisite: CHEM 355 (may be taken concurrently) or consent of department. Three hours lecture. Spring annually.

**CHEM 459: DEMONSTRATIONS IN CHEMISTRY** 3 s.h.

Studies are made of various demonstration techniques with students devising and applying each with many examples. Special attention is given to the study of the material of the Chem. Study Committee of the American Chemical Society prepared for the purpose of vitalizing high school chemistry courses. Prerequisites: CHEM 151, 152, and at least one other major course. Offered occasionally.

**CHEM 460: RADIOCHEMISTRY TECHNIQUES** 2 s.h.

A general course dealing with radioactive materials, their radiations, preparation of isotopes in various chemical forms, detection, identification and applications. Aspects of safety and basic laws and regulations are stressed. Emphasis is placed on nuclear instrumentation, including G.M., scintillation and gas flow counting techniques. Work with a neutron howitzer, including basic activation analysis with its associated gamma ray spectroscopy, is studied. Prerequisites: CHEM 152 or 154; MATH 151 or 171. One hour lecture, three hours laboratory. Offered occasionally.

**CHEM 463: BIOCHEMISTRY LABORATORY** 1 s.h.

A laboratory course consisting of experiments involving the major techniques in modern biochemistry. Emphasis will be on separation and purification techniques, kinetic studies, quantitative determinations, and analytical instrumentation in biochemistry and biotechnology. Must be taken concurrently with CHEM 453. Prerequisite: CHEM 251 or 254. Spring, annually.

**CHEM 465,466: CHEMICAL RESEARCH** 1-3 s.h. each

An independent laboratory problem in some field of chemistry of special interest to the student. Admission only by consent of the instructor and the approval of the Department Chair. Prerequisites: CHEM 355, 357. Each semester.

- CHEM 470: CHEMISTRY SEMINAR 1 s.h.**  
Search of the chemical literature on a topic of current interest, compilation of a bibliography, preparation of an abstract, and presentation of a seminar. Prerequisites: CHEM 252, 355. Spring, annually.
- CHEM 471: ADVANCED TOPICS IN CHEMISTRY 1-3 s.h.**  
Topics of current interest in the field of chemistry will be presented. The choice of topics will vary from year to year, but the subject areas each year will include topics from three different areas. Topics such as non-aqueous solvents, solid state chemistry, polymers, chemical physics, group theory, stereochemistry, organometallics and recent developments in spectroscopy will be discussed. Prerequisite: CHEM 355 (may be taken concurrently). Fall, annually.
- CHEM 485: PROBLEMS IN CHEMISTRY EDUCATION 1-3 s.h.**  
An opportunity to explore in depth a problem area in chemistry education according to the student's need or interest under the direction of a faculty member. Admission only by consent of the instructor and the approval of the Department Chair. Prerequisites: Junior standing or consent of the Department. Not open to Chemistry majors in the Liberal Arts or Bachelor of Science Curriculum. Each semester.

## Communication

- COMM 100: EXPLORATIONS IN MASS COMMUNICATION 3 s.h.**  
A systematic study of the field of communication. Content includes historical perspectives, characteristics and functions of various media and communication fields, a study of career options, and competencies required of a professional in each area. Current issues, trends, and employment opportunities will be examined as they relate to career areas. Fall, annually.
- COMM 152: MESSAGE DESIGN 3 s.h.**  
Investigates the elements of effective communication, including the dimensions of sensory perception, meaning, environment, attitude, and technology. Students shall be required to apply theoretical concepts to practical problems. Each semester.
- COMM 171: WRITING FOR MEDIA 3 s.h.**  
Develops fundamental skills in writing and/or visualizing for a variety of media forms. Emphasis will be placed on print and broadcast newswriting, advertising copywriting and public relations writing. Prerequisite: ENG 111 or consent of instructor. Each semester.
- COMM 251: INTRODUCTION TO IMAGES 3 s.h.**  
Develops an awareness of the perceptual cues in the environment with the goal of enabling the student to use this awareness in the design of graphics, films, electronic and sound images. An introduction to the production process. Camera required. See specifications under "College of Communication" section. Each semester.
- COMM 271: REPRODUCTION GRAPHICS 3 s.h.**  
Develops basic skills in graphic arts processes, layout design, preparation of copy for reproduction with emphasis on offset lithography, and use of computers with desk top publishing. A \$30 equipment deposit required. Camera required. See specifications under "College of Communication" section. Prerequisites: COMM 152, 171, and 251. Each semester.
- COMM 300: NEWSWRITING 3 s.h.**  
Principles and practice of evaluating, gathering and writing the fundamental news story and news feature; preparation of copy for publication, interviewing, and laboratory experience. Spring, annually.

- COMM 315: PHOTOGRAPHY** 3 s.h.  
Provides basic principles of photography and intermediate principles of photojournalism. Study of camera and darkroom techniques; the production of photographs for news, advertising, scientific, and instructional use. Camera required. See specifications under "College of Communication" section. Spring, annually.
- COMM 351: PRODUCTION APPLICATION** 6 s.h.  
Provides the student with training in television production and experience in the application of communication theory and production techniques. Integrates skills in writing, photography, audio and graphics in a total production context. Camera required. See specifications under "College of Communication" section. Prerequisite: COMM 271. Each semester.
- COMM 352: COMMUNICATION RESEARCH METHODS** 3 s.h.  
Develops entry level skills in use of the research process to the study of human behavior. Emphasizes the role of research in the various communication professions. Requires the possession of a hand calculator with square root and preferably with Algebraic Operating System (AOS) logic. Prerequisite: COMM 152. Each semester.
- COMM 360: PUBLICATIONS EDITING** 3 s.h.  
Provides fundamental instruction in editing skills, copy editing, headline writing, typography, photographs, copy control and layout. It also examines the role and responsibilities of the editor. Prerequisite: COMM 271. Spring, annually.
- COMM 400: MEDIA IN ADVERTISING** 3 s.h.  
Introduces the student to media strategies, creative development, and budgeting of advertising plans for national and major-market media. The course includes a review of basic concepts in advertising. Fall, annually.
- COMM 402: INTERNSHIP** 5 s.h.  
Provides experience during which the student applies theory and techniques to communication tasks of a cooperating business, industry, agency or institution. The student will be required to obtain approval of a detailed proposal before registering for the course. Prerequisites: COMM 351, 352, senior standing, minimum 2.5 QPA. Individual exceptions may be granted upon application to the faculty through the advisor. Arranged.
- COMM 405: PRESENTATION GRAPHICS** 3 s.h.  
Design and production of graphic materials for the presentation of information in training sessions, sales and stockholder meetings, and other small and large group situations. Spring, annually.
- COMM 411: FOUNDATIONS OF BROADCASTING** 3 s.h.  
An overview of the broadcasting industry, including history, technical aspects, station and network organization, sales, ratings, programming and social influences. A foundation course for radio-TV career preparation, related fields of communication, and the development of knowledgeable consumers of broadcast media. On demand.
- COMM 412: FOUNDATIONS OF CABLE TELEVISION** 3 s.h.  
An overview of the cable television industry, including history, technical aspects, industry and system structure and organization, economics, law and programming, with emphasis on cable management/operations. Spring, odd-numbered years.
- COMM 415: LOCAL ADVERTISING** 3 s.h.  
A professional course in planning, scheduling, producing, and buying and selling advertising at the local level, with specific attention to the small business client. Spring, annually.

**COMM 431: PUBLIC RELATIONS PRINCIPLES AND PRACTICE 3 s.h.**

This course is designed to provide fundamental instruction in public relations practices, including program planning and evaluation, working with the media, writing for public relations and coordinating special events and functions. The structure and process of public relations in business, institutions and American society will be explored through readings and discussion. Fall, annually.

**COMM 441: ADVANCED MEDIA WRITING 3 s.h.**

Extensive work in research, writing, and marketing of written products for magazines, newspapers and broadcasting. The coursework also requires the selection and acquisition of appropriate photographs and graphics to complement the articles. Prerequisites: COMM 171 and 251. Fall, annually.

**COMM 442: BROADCAST AND CONTINUITY WRITING 3 s.h.**

Provides students with advanced instruction and experience in writing news, commercials, public service announcements, and promotional copy for the broadcast media. Prerequisites: COMM 100, 152, and 171.

**COMM 443: PROMOTIONAL WRITING 3 s.h.**

Provides students with advanced instruction and experience in public relations and advertising writing. Prerequisites: COMM 100, 152, and 171.

**COMM 451: COMMUNICATION EVALUATION 3 s.h.**

Develops skills in the selection, development, and use of specific evaluation tools for various communication professions. Both qualitative and quantitative procedures are applied. Emphasis is placed on formative evaluation and the role of objectives. Prerequisite: COMM 352. Each semester.

**COMM 452: COMMUNICATION LAW 3 s.h.**

Introduces the student to various laws such as those of libel, privacy, copyright, access, and FTC and FCC rules and regulations governing the fields of communication. Ethical considerations in communication fields and potential restrictions, such as union and company policies, on communication are also discussed. Each semester.

**COMM 460: TELEVISION DIRECTING 3 s.h.**

Develops the skills needed to direct a variety of television studio productions, including news, interview, demonstration and dramatic programs. Emphasis is on both technical and aesthetic directing skills. Prerequisite: COMM 351 or other television production experience and permission of the instructor. Four contact hours. Spring, annually.

**COMM 491: INDEPENDENT STUDY 1-3 s.h.**

Allows the imaginative student to structure an independent research project in the area of communication with a minimum of faculty supervision. A proposal specifying objectives, methods, and evaluation techniques must be submitted to and approved by the student's advisor and dean.

**COMM 499: SPECIAL TOPICS IN COMMUNICATION 1-3 s.h.**

Focuses on a single, broad contemporary topic of current interest in communication and related fields. Course content varies from semester to semester. Topics to be considered will be announced in advance. May be taken three times for credit. On demand.

## Computer Information Science

### CIS 110: INTRODUCTION TO COMPUTER INFORMATION SYSTEMS 3 s.h.

This is an introductory survey of the needs for and roles of computer information systems in contemporary society. It is intended as a first course for the non-computer major to satisfy the need of students from every discipline to be "computer literate," as well as providing the necessary basis for further computer related studies. Emphasis is on computer requirements in organizations, history, hardware concepts, programming, application software, systems development, and computer operations. Introductory level programming will utilize the BASIC language and time sharing facilities of the university's VAX computer system. This should not be taken by any Computer Science or CAIS major, and will not count toward graduation for any student who has also taken CIS 120 or CIS 163. Each semester.

### CIS 120: PRINCIPLES OF APPLIED INFORMATION SYSTEMS 3 s.h.

This is the first course for CAIS majors and is intended to be taken by those majors only during the first semester of their freshman year. It is an introduction to the tools, techniques, and processes utilized by computer professionals in developing and utilizing applied computer information systems. Heavy emphasis is placed on logical and communication skills utilized in the field and on the development of elementary programming proficiency. May not be taken by C.S. majors or by any student who has taken CIS 110. Fall semester.

### CIS 151: FORTRAN I 3 s.h.

Introductory course in programming using FORTRAN. The FORTRAN language exemplifies the use of a high level language processor which can solve problems requiring scientific methods as well as commercial applications. All material is presented in an orderly fashion designed to aid the student in understanding the various algorithms underlying solutions to a variety of problems. Annually.

### CIS 152: FORTRAN II 3 s.h.

An advanced course in FORTRAN programming designed to acquaint the student with the many facets and extensions of the FORTRAN language. Many advanced features of the language which are not covered in the introductory course will be explored; particularly Disk and Tape operations, built in functions and debugging techniques. Prerequisite: CIS 151. An elective course offered as student demand warrants.

### CIS 163: INTRODUCTION TO PROGRAMMING AND ALGORITHMS I 3 s.h.

Required of all C.S. majors (but not of C.A.I.S. majors). An introduction to the concepts of algorithms and problem solving. A computer programming language is presented as a tool in examining these concepts. Fall semester.

### CIS 164: INTRODUCTION TO PROGRAMMING AND ALGORITHMS II 3 s.h.

Required of all C.S. majors (but not of C.A.I.S. majors). An examination of complex problem solving techniques, top down design, and program debugging and testing. Prerequisite: CIS 163. Spring semester.

### CIS 211: RPG II REPORT PROGRAM GENERATOR 3 s.h.

This computer course introduces the theory and application of the report program generator language utilized by commercial users with small configurations of computer equipment. Prerequisite: Sophomore standing or consent of instructor. Annually.

CIS 212: MICRO/MINI COMPUTER SYSTEMS 3 s.h.

This course studies three aspects of small computer systems; micro/mini computer architecture, software systems available including an in-depth study of at least two popular software packages, and programming the small computer system in BASIC and/or PASCAL with hands-on experience using a widely available system. Intended for CAIS majors. Prerequisite: CIS 110 or CIS 120. Each semester.

CIS/ED 217: APPLICATIONS OF MICROCOMPUTERS 3 s.h.

An introduction to the basic concepts of microcomputers and software applications. Topics include microcomputer hardware, commonly available software packages, graphics and programming. Not open to students who have completed CIS 212 or CIS department majors. Each semester.

CIS 223: COMPUTER PROGRAMMING COBOL 3 s.h.

This is designed to be the first programming course for the C.A.I.S. major (but not for the C.S. major). Emphasis is on structured programming concepts and the COBOL language. Programs written in the course emphasize commercial, industrial, and governmental applications. Prerequisite: CIS 110, CIS 120 or CIS 163. Each semester.

CIS 226: COMPUTER SYSTEMS DEVELOPMENT WITH HIGH LEVEL TOOLS 3 s.h.

This is a study of the process of developing a computer-based solution to an information management problem. The student will study the methods of system analysis and design with emphasis on practical solutions to real problems. Course content will be directed toward existing, available systems development tools for both large computers and microcomputers. "Fourth-generation" tools will be used to develop an underlying database and generate programs to implement a business application. Offered in the spring semester at Venango Campus only. Prerequisite: CIS 110 and CIS 217 or permission of the instructor.

CIS 230: PRACTICUM IN COMPUTER INFORMATION SCIENCE 1-2 s.h.

The course is designed to provide undergraduates with an introduction to the role of computer specialists in the everyday operation of a computer machine room and user area. The course provides real experience in such routine exercises as: machine event logging, backup/restoration of on-line information, preparation, organization, and revision of system documentation, allocation of user accounts, monitoring of system resources, and fielding of user problems and complaints. A maximum of 6 credits of the practicum may be applied toward graduation. Students enrolled in the course are required to gain actual experience in everyday machine operation by acting as machine room supervisors and interacting with computer users. Prerequisites: CIS 164 or 223. Each semester.

CIS 253: COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE 3 s.h.

This course consists of two major parts. The first part is an introduction to assembly language programming and the second part concentrates on an introduction to computer organization and the structuring of major hardware components. It develops a basic understanding of the mechanics of information transfer and control and the fundamentals of logic design. Prerequisite: CIS 164 or 223. Annually.

CIS 254: INFORMATION STRUCTURE 3 s.h.

An introduction to the representation of information in both primary and secondary storage and a foundation for further study in data structures. Topics include sequential and random access, searching, sorting, linked lists, hashing, and trees. The major concepts of the course are reinforced through the use of programming assignments. Prerequisite: CIS 164 or 223. Annually.



CIS 255: SURVEY OF LANGUAGES 3 s.h.

A survey of several popular programming languages with emphasis on the types of problems for which each language was designed. Students are exposed to both the syntax and semantics of the languages and are expected to complete several small programming projects in each of them. Prerequisite: CIS 164 or 223. Annually.

CIS 301: COMPUTER SYSTEMS ANALYSIS 3 s.h.

This computer course studies informational needs and patterns of information flow within a large organization. The primary emphasis is on the analysis and design of computer software systems. Prerequisites: CIS 223. Annually.

CIS 302: EDP AUDITING AND SECURITY 3 s.h.

EDP Auditing and Security is concerned with the EDP audit process, provision and evaluation of controls in all aspects of EDP system operation, and the provision and maintenance of computer security. Internal control is stressed as specific controls and security are studied. Prerequisites: ACTG 252, CIS 324. Annually.

CIS 305: ARTIFICIAL INTELLIGENCE IN  
DECISION MAKING 3 s.h.

This course surveys the thinking and some of the pioneering efforts in the area of artificial intelligence (AI), integrated with more traditional approaches to decision making. Application of AI principles will be made through the use of logic programming languages such as PROLOG or with successors that may appear. Prerequisites: CIS 324 or CIS 254. Annually.

CIS 324: DATA STRUCTURE AND FILE UTILIZATION COBOL 3 s.h.

Primary consideration is given to the concepts of file structure, file processing, and COBOL programming in relationship to organizational processes and needs. COBOL is used to implement, test, and explore systems concepts, including simulations and data base design. Prerequisite: CIS 223. Each semester.

CIS/MATH 340: DISCRETE MATHEMATICAL STRUCTURES 3 s.h.

An introduction to sets, relations, functions, combinations, graphs and trees emphasizing concrete models. Includes computer algorithms and mathematical structures useful in Computer Science. Designed for students in both Mathematics and Computer Science. Prerequisite: MATH 271 and CIS 151 or CIS 163. Each semester.

CIS 350: MACHINE ARCHITECTURE AND  
SYSTEMS SOFTWARE 3 s.h.

This course investigates the basic concepts of machine architecture together with their realization and software implications in various categories of computer systems. Prerequisite: CIS 253. Annually.

CIS 355: OPERATING SYSTEMS I 3 s.h.

Topics covered are the functions of operating systems, the design of operating systems at the register transfer and programming levels, and the important relationships between operating systems and computer hardware. Prerequisites: CIS 350 and 254. Annually.

CIS 356: DATA STRUCTURES AND ALGORITHM ANALYSIS 3 s.h.

This course develops skills in the application of algorithmic methods to the solution of decision problems in the use of data structures. Prerequisites: CIS 253 and 254. Annually.

CIS 357: STRUCTURE OF PROGRAMMING LANGUAGES 3 s.h.

This course investigates the programming features of several common languages from the point of view of implementation of these languages. The student is exposed to the language characteristics along with the details (difficulties) in the implementation of them. The desired effect is to train the student to choose and use languages in a competent manner. Prerequisites: CIS 253, 254, and 255. Annually.

- CIS 401: SYSTEMS DEVELOPMENT PROJECT 3 s.h.**  
A student in this course will develop a computer-based solution to a real problem obtained from the university or the community. Working as a member of a group/team, the student will evaluate an existing system, identify alternative solutions, select a solution, develop a project plan, design, implement, test and document the system. Current technology will be used whenever possible, including microcomputers, word processing, and a relational database. Prerequisite: CIS 301. Annually.
- CIS 402: DATA BASE MANAGEMENT SYSTEMS 3 s.h.**  
A study of Data Base Management Systems with "hands on" experience. The student will investigate the analysis, design, implementation and maintenance of a modern Data Base Management System. Prerequisites: CIS 223 and 301. Annually.
- CIS 403: DATA COMMUNICATIONS 3 s.h.**  
Data communications cover fundamental communication concepts such as synchronous/asynchronous transmission, modulation and half and full duplex; hardware of data communications, techniques such as multiplexing, multipoint line control and switching; error detection and correction, tariffs and costs; the design of a basic data communication network. Prerequisite: CIS 223. Annually.
- CIS 422: INTERNSHIP IN COMPUTERS**  
The internship provides the student with the opportunity for practical computer experience in commercial, industrial, governmental, or other participating organizations. Prerequisites: CIS 253 or 324. Junior or Senior standing. Each semester.
- CIS 460: INTRODUCTION TO THEORY OF COMPUTATION 3 s.h.**  
An introduction to the theory underlying the design, use and limitations of computers. Includes finite state and infinite machines, computability, formal systems. Prerequisites: CIS 164 or 324, 240. Annually.
- CIS 461: OPERATING SYSTEMS II 3 s.h.**  
This course is devoted to the study of the computer programs that are used to control and monitor the overall functioning of the computer as it serves the application programs. This is an advanced course in operating systems following Operating Systems I. Prerequisites: CIS 355 and MATH 455. An elective offered as student demand warrants.
- CIS 462: SIMULATION AND MODELING 3 s.h.**  
This course covers the advantages and disadvantages of using computer simulation in modeling. Students will learn and practice techniques of computer simulation. Prerequisites: CIS 164 or 324 and either MATH 221 or 455, or consent of instructor.
- CIS 469: SEMINAR IN COMPUTER & INFORMATION SCIENCE 1 s.h.**  
A brief look at diverse subjects in computing and information systems. Each student will research an approved topic and offer a related verbal presentation to the class. Prerequisite: Senior standing. Annually.
- CIS 499: INDEPENDENT STUDY IN COMPUTERS**  
This course permits students to explore an area of special interest using computers. The special project must be under the direction of a department faculty member. Prerequisites: CIS 164 or 324, Junior or Senior standing.

## Earth Science

*NOTE: Earth Science courses carry natural science credits only.*

**ES 111: BASIC EARTH SCIENCE 3 s.h.**

A survey of the Earth Sciences including Earth-space relations. Earth motions, development of land forms, weather and climate, soils and related vegetation, water as a resource of the land, oceans. Emphasis is on the lithosphere (mountain building and erosion) and the atmosphere. Called Basic Geography in older catalogs. Each semester.

**ES 150: PHYSICAL GEOLOGY 3 s.h.**

A study of the earth, including minerals and rocks, and the processes, both constructional and destructional, which have shaped it since it was formed. Constructional processes include volcanism, mountain building, and sedimentation. Destructional processes include the erosional activity of streams, glaciers, ground water, waves, and wind. In connection with these topics, an effort is made to acquaint the student with the methods and work of geologists and with some of the research at the frontiers of geology. The course includes a field trip into local areas. No prerequisites. Each semester.

**ES 200: SOLAR SYSTEM ASTRONOMY 3 s.h.**

The course topics include the motions of Earth, moon, and the planets and their effects on the appearance of the sky; the nature of the sun and the planets; the instruments of the astronomer and the role that the history of astronomy played in the development of our understanding of the sky. The course also includes constellation identification through the use of the planetarium. Each semester.

**ES 201: STELLAR ASTRONOMY 3 s.h.**

The objectives of this course are to study human understanding of the nature, formation and evolution of those celestial objects that lie beyond the solar system. Topics included are stellar properties and spectra, stellar evolution, special stars and star systems, the milky way and other galaxies, cosmology and cosmogony. The planetarium is used for constellation study and the development of co-ordinate systems. Prerequisite: ES 200. Spring, annually.

**ES 250: HISTORICAL GEOLOGY 3 s.h.**

The course deals with the interpretation of the record of the rocks and the geologic history of the earth with emphasis on North America. The physical history of the continent and the development of life, especially backboneed forms, are discussed. Regional geologic history is illustrated by selected areas, notably Appalachia. Prerequisite: ES 150. Offered annually.

**ES 255: LAND FORMS 3 s.h.**

A study of the physical forces that sculpture and modify the landforms of the earth, including chiefly weathering, streams, glaciation, and shore processes. Some preliminary work on topographic and geologic maps and rocks is included. Called Geomorphology in older catalogs. Prerequisite: ES 150. Offered annually.

**ES 260: ENVIRONMENTAL GEOLOGY 3 s.h.**

A study of the uses of geology in the solution of human problems with the physical environment. Topics include hazardous geologic environments, mineral and energy resources, water supply, waste disposal, and the uses of geology in urban and regional planning. Many examples are drawn from western Pennsylvania. Prerequisite: ES 150 or ES 111. Every third semester.

**ES 270: OCEANOGRAPHY 3 s.h.**

A study of the physical properties, marine biology, chemistry, and geology of the oceans and to a minor extent, the role of the sea in the history, culture, and technical developments of humankind. Once annually.

ES 280: METEOROLOGY 3 s.h.

A systematic study of the atmosphere, analyzing the laws and underlying principles of atmospheric change. Students have the opportunity to become familiar with the common weather instruments, to observe and record weather data, to read and interpret weather maps, and to consider the problems of aviation growing out of atmospheric conditions. Offered annually.

ES 300: SPECIAL TOPICS

Topics of special interest in various areas of earth science. The format used will be selected and designed by the professor as the most suitable to the study. Enrollment by consent of the instructor. Offered occasionally.

ES 330: HYDROGEOLOGY 3 s.h.

An introduction to both surface and subsurface waters. Topics to be covered include: Water Use and Availability, Water Law, Water Quality, (both surface waters and ground waters), Hydrology of Ground Water and Surface Waters, Hydrology and Water Quality of Impounded Waters and Water Resource Management.

The course is designed for upper division students in the Geology-track of the B.S./B.A. in Earth Science. Upper level students in biology, especially those with interests in water quantity and quality, may also be interested in this course. Prerequisite: ES 150, MATH 171 or equivalent. Every third semester.

ES 360: MINERALOGY (MINERALS) 3 s.h.

The identification, uses, physical and chemical properties, occurrence, origin, and crystallography of the common minerals. Prerequisites: at least high school chemistry. Every other year.

ES 350: STRUCTURAL GEOLOGY 3 s.h.

A study of the geometry, origin, and recognition of the main structural features of the rocks of the earth's crust, including folds, faults, joints, unconformities, larger igneous bodies, cleavage, lineation, etc. Attention is given to interpreting structure from geologic maps, and an introduction to structural petrology and geophysical methods used in structural geology is included. Prerequisite: ES 150. Every other year.

ES 355: INVERTEBRATE PALEONTOLOGY 3 s.h.

A study of the outstanding invertebrate animals preserved in the fossil record. Also treated in the nature of the fossil record itself, evolution as shown by fossils, and classification problems in paleontology. Prerequisite: ES 250. Every third semester.

ES 370: PETROLOGY (ROCKS) 3 s.h.

The identification, occurrence and origin, classification, physical and chemical properties, and uses of the common rocks. Includes a brief study of the important rock forming minerals. Called Petrology in older catalogs. Prerequisite: ES 150. Every other year.

ES 375: SEDIMENTATION AND STRATIGRAPHY 3 s.h.

A study of several aspects of the stratigraphic column, stratigraphic procedures and maps, and the properties, classifications, description, origin, correlation, facies, and environments of sedimentary rocks. Prerequisites: ES 150 and 250. Every third semester.

ES 380: ADVANCED METEOROLOGY 3 s.h.

Students study and interpret weather data which are received directly from NOAA by way of a weather facsimile recorder. Also, local meteorological data are used to study and compare atmospheric characteristics and trends. Prerequisite: ES 280. Every other year

ES 385 or

GEOG 385: CLIMATOLOGY 3 s.h.

A systematic study of three major components of climatology. Physical aspects of the atmosphere are analyzed as a series of long-term weather phenomena. Regional characteristics of climate are studied on the basis of world-wide patterns. Applied aspects of climate

demonstrate the interrelationship and importance of both physical and regional climatology to humankind. Acceptable for social science or natural science credit. Prerequisite: ES 111 or 280. Every other year.

## Economics

ECON/GS 140: CONSUMER ECONOMICS 3 s.h.

Major aspects of personal financial management including budgeting of income and expenditures, transactions, and relations with banks and other lending institutions, insurance and retirement plans, home ownership, personal taxes, savings and investment plans. BSBA majors may apply this course only as a free elective. Alternate years.

ECON 175: ECONOMICS OF FREE ENTERPRISE AND PUBLIC POLICY 3 s.h.

A basic introduction into the history of economics as a social science, the theory and application of microeconomics and macroeconomics, international economics, and economic alternatives in current social problems. This is a freshman level course and can be used only as general education elective in either the associate degree program or the baccalaureate degree programs. Majors in the college of business administration are excluded from the course. Each semester.

ECON 211: PRINCIPLES OF MACROECONOMICS 3 s.h.

Introduction to macroeconomics, national income analysis, money and banking, monetary and fiscal policies, inflation, unemployment, and international finance. Note: ECON 211 and 212 may be taken in either sequence. Each semester. Fall, annually at Venango.

ECON 212: PRINCIPLES OF MICROECONOMICS 3 s.h.

Introduction to microeconomics, consumer behavior and demand, organization of production, market structures, the pricing of inputs and outputs, and international trade. Note: ECON 211 and 212 may be taken in either sequence. Each semester.

ECON 221: ECONOMIC AND BUSINESS STATISTICS I 3 s.h.

Topics covered are descriptive statistics, probability, probability distributions, mathematical expectation, sampling distributions, and confidence intervals. Application of these statistical techniques in the areas of business and economics will be emphasized. (This course cannot be used to meet general education requirements.) Prerequisite: College Algebra or equivalent and sophomore standing. Each semester. Fall, annually at Venango.

ECON 222: ECONOMIC AND BUSINESS STATISTICS II 3 s.h.

Topics covered are hypothesis testing, the analysis of variance, regression and correlation analysis, non-parametric statistics, and time series and index numbers analysis. Applications of these techniques in the area of business and economics are emphasized. Students are introduced to the use of a prewritten computer statistical estimation program. (This course cannot be used to meet general education requirements.) Prerequisite: ECON 221. Each semester.

ECON 310: INTERMEDIATE MICROECONOMIC THEORY 3 s.h.

The behavior of consumers, producers, and the economic theory of production and output determination in commodity and resource markets. Prerequisites: ECON 212. Each semester.

ECON 311: INTERMEDIATE MACROECONOMIC THEORY 3 s.h.

National income accounting and analysis, theories of consumption and investment expenditures, the role of money in a dynamic economy, economic growth, and public policy. Prerequisite: ECON 211. Fall, annually.

- ECON 312: COMPARATIVE ECONOMIC SYSTEMS 3 s.h.**  
Analysis of alternative patterns of economic control, planning, and market structure. Experiences under capitalism, socialism and mixed economics are compared and evaluated. Prerequisite: ECON 211 and 212. Spring, annually.
- ECON 314: URBAN AND REGIONAL ECONOMICS 3 s.h.**  
Introductory subnational economics. Includes elementary trade theory, location theory, systems of cities, land use changes, and the employment and income generating activities of cities. The economics of housing, transportation, poverty, discrimination and public sector activity are emphasized. Prerequisite: ECON 211 and ECON 212. Spring, biennially.
- ECON 340: INDUSTRIAL ORGANIZATION AND PUBLIC POLICY 3 s.h.**  
A theoretical and empirical analysis of the effects of market structure, business behavior and government policy on economic performance and consumer welfare. Topics include welfare economics, market structure, pricing, technological change, regulation and anti-trust policy. Prerequisite: ECON 211 and 212. Fall, annually.
- ECON 341: THE ECONOMICS OF REGULATED INDUSTRIES 3 s.h.**  
A theoretical and empirical study of regulated industries with emphasis on transportation, energy and communications. Topics include regulatory theory, deregulation and public utilities. Prerequisites: ECON 211 and 212. Spring, annually.
- ECON 351: LABOR ECONOMICS 3 s.h.**  
Theory of the market is applied to labor. The evolution of labor law, collective bargaining, labor unions, and government policy are stressed. Prerequisites: ECON 211 and 212. Fall, annually.
- ECON 361: INTERNATIONAL ECONOMIC RELATIONS 3 s.h.**  
Theory and practice of international trade. Balance of payments, foreign exchange, national commercial policies, international investment, and foreign aid are considered. Prerequisites: ECON 211 and 212. Fall, annually.
- ECON 363: ECONOMIC DEVELOPMENT 3 s.h.**  
Survey of development models, development policies and problems of development in the developing countries. The course is aimed at identifying major economic questions relevant to less developed economies and to showing how economic analysis can be used to further understanding of the obstacles to development and to formulating appropriate policies. Prerequisites: ECON 211 and ECON 212. Spring, annually.
- ECON 370: MONEY AND BANKING 3 s.h.**  
Nature and origins of money; the commercial banking system and money creation; central banking and the Federal Reserve System; monetary policy and domestic and international economic stability. Prerequisites: ECON 211 and 212. Spring, annually.
- ECON 371: PUBLIC FINANCE 3 s.h.**  
Public sector activity and its impact upon resource allocation, and income distribution. Topics include the theory of public expenditures, public choice, cost-benefit analysis and fiscal federalism. The structure, incidence and incentive effects of the personal income tax, corporate income tax, and various consumption and wealth taxes are investigated. Prerequisites: ECON 211 and 212. Fall, annually.
- ECON 410: MANAGERIAL ECONOMICS 3 s.h.**  
Use of economic analysis in the formulation of business policies. Decision theory and criteria for decision-making by the firm; output and "scale" decisions; linear programming; profits, production functions and cost functions; competitive equilibrium (industry and firm); demand theory, pricing policies, capital budgeting and investment; uncertainty; inventory management. Prerequisites: ECON 222, 310 and ACTG 152. On demand.

**ECON 423: STATISTICAL TOOLS FOR QUANTITATIVE ANALYSIS**

3 s.h.

Application of the statistical methods of probability, sampling, estimation, analysis of variance, regression, and correlation in the areas of economics and business. Prerequisite: ECON 222. Spring, biennially.

**ECON 470: BUSINESS CYCLES AND FORECASTING**

3 s.h.

Theories of business fluctuations; applications of modern income theory to business cycles; examination of business cycle indicators and forecasting techniques. Prerequisites: ECON 211 and 222, or consent of the instructor. Spring, annually.

**ECON 490: HISTORY OF ECONOMIC THOUGHT**

3 s.h.

Development of economic ideas from ancient times to the present. Emphasis upon the period from Adam Smith onward. Considers the economic and political environment in which ideas emerged as well as the leading economists advancing or defending the ideas. Prerequisites: ECON 211 and 212 and senior standing. Spring, annually.

**ECON 491: INDEPENDENT STUDIES IN ECONOMICS**

1-3 s.h.

Opportunity to explore in depth a problem or area of economics, according to the student's interest, under the direction of a faculty member of the Department. Prerequisite: 2.75 grade point average and consent of both instructor and department chair. Maximum credit granted in ECON 491 is 6 credits.

**ECON 492: SPECIAL TOPICS IN ECONOMICS**

3 s.h.

An opportunity for students to investigate specific topics or current issues. Prerequisites depend upon the subject to be covered.

## Education

**ED 110: INTRODUCTION TO EDUCATION**

3 s.h.

This introductory course will familiarize students with the public school system. Topics covered include: philosophical, sociological and historical backgrounds of education, organization and governance of schools, the role of the teacher and choosing teaching as a career. Planned visits to school board meetings and interviews with board members and/or school personnel are required. Each semester.

**ED 122: EDUCATIONAL PSYCHOLOGY**

3 s.h.

Examines the major theories, research procedures, and empirical data germane to educational psychology and their application to educational strategies. Each semester.

**ED/CIS 217: APPLICATIONS OF MICROCOMPUTERS**

3 s.h.

An introduction to the basic concepts of microcomputers and software applications. Topics include microcomputer hardware, commonly available software packages, graphics and programming. Not open to students who have completed CIS 212. Each semester.

**ED 221: DEVELOPMENTAL READING**

3 s.h.

A broadly based course which emphasizes improvement in rate, comprehension, reading taste, and independence in reading. Students are introduced to wide and varied sources of reading and numerous means of improvement in reading skills. Instruction in theory and an introduction to the possibilities of a supplementary mechanical program for reading improvement are included. Not recommended for students who have taken GS 100: College Reading/Study Skills. Fall semester.

ED 224: EDUCATIONAL EVALUATION 3 s.h.

This course addresses the construction, selection, administration, interpretation, and utilization of evaluation instruments and techniques. Students will be required to analyze standardized tests applicable to their certification area, as well as construct and utilize informal instruments. Prerequisite: ED 122. Each semester.

ED 227: CLASSROOM MANAGEMENT 3 s.h.

This course prepares pre-service professional educators to organize and manage instructional environments through a variety of instructional formats, classroom organizational methods, as well as teacher leadership roles. The course will provide the competencies necessary to plan positive instructional activities, organize classroom space and time, direct the acquisition of knowledge and appropriate social behavior, and apply a range of classroom control techniques. Participation experiences in the schools are required. Prerequisite: ED 122. Each semester.

ED 311: METHODS OF TEACHING AND EVALUATING MODERN  
LANGUAGES (French, German, Spanish, Russian, as applicable to  
major.)

Introduction to the psychological and linguistic foundations of modern language acquisition. Techniques of teaching modern languages and cultures. Evaluative techniques for testing modern language acquisition. Long-range and short-range planning in Modern Language teaching. Prerequisite: ED 327 Basic Teaching Skills. Scheduled as needed.

ED 324: METHODS OF TEACHING AND EVALUATING  
MATHEMATICS 3 s.h.

Place and function of mathematics in secondary education; content improvement and evaluation of instruction in mathematics; acquaintance with current literature and research; observation in secondary schools. Observations and teaching experiences in area schools are included. Prerequisites: ED 327 and 9 hours of college mathematics. Fall, annually.

ED 325: MULTICULTURAL EDUCATION 1 s.h.

The purpose of this course is to assist the student in developing an awareness and understanding of our multicultural-pluralistic society and in acquiring interpersonal and pedagogical skills needed to provide optimum learning opportunities for students. Skills and concepts developed in this course will be applied in selected methods courses. Each semester.

ED 326: METHODS OF TEACHING AND EVALUATING  
SOCIAL STUDIES 3 s.h.

This course is geared to coordinate knowledge of the social sciences with various strategies of teaching in a social studies program in the secondary schools. Emphasis is placed on the inquiry method. Students are expected to develop competencies in formulating objectives, in questioning, in planning lessons, in evaluation of materials, programs, and student performance and in designing learning activity packets. Students are afforded the opportunity to observe and to engage in clinical teaching experiences. Open to juniors and seniors. Prerequisite: ED 327. Fall.

ED 327: BASIC TEACHING SKILLS 2 s.h.

This course will provide the prospective teacher, through a clinical approach to teaching with the basic skills of planning, organizing, implementing and evaluating the teaching-learning process. The course will emphasize the body of research findings that focus specifically on the pedagogical skills necessary for quality teaching utilization of micro-teaching approaches, and simulations will be an integral component of this course. Prerequisite: ED 122. Each semester.



**ED 328: METHODS OF TEACHING AND EVALUATING COMMUNICATION ARTS 3 s.h.**

The course is designed to prepare the aspiring secondary school teacher in the methods of teaching such language based subjects as speech, composition, literature, grammar, and reading, and in such language-related, communication oriented activities as dramatics, journalism, yearbook production, and media use. Observations and teaching experiences in area schools are included. Prerequisite: ED 327. Fall, annually.

**ED 332: METHODS OF TEACHING AND EVALUATING SCIENCE 3 s.h.**

A course designed to prepare biology teachers for the secondary schools. Emphasis is on formulating objectives, selecting and organizing content, developing skill in using a variety of teaching strategies, and evaluating pupil progress. The investigatory approach to teaching biology is stressed in laboratory, field, and simulated teaching experiences. Observations and teaching experiences in area schools are included. Prerequisite: ED 327. Fall, annually.

**ED 333: TEACHING READING IN THE SECONDARY CONTENT AREAS 3 s.h.**

An examination of the techniques for helping secondary students develop the reading skills needed to comprehend content-area textbooks. Students will examine those skills in their certification area. Skills and competencies developed in ED 325: Multicultural Education will be applied. A required course for secondary education majors. Participation experiences in the schools are required. Prerequisite: ED 327. Each semester.

**ED 334: METHODS OF TEACHING THE PHYSICAL SCIENCES 3 s.h.**

Modern concepts of chemistry, physics, and general science teaching and evaluating with emphasis on a laboratory oriented approach. The philosophy, laboratory techniques, curriculum testing, and extra-curricular aspects of secondary school chemistry, physics, and general science teaching will be presented. Prerequisite: For secondary chemistry majors — 16 s.h. in chemistry; for physics majors — 10 s.h. in physics. Observations and teaching experiences in area schools are included. Prerequisite: ED 327. Fall, annually.

**ED 335: METHODS OF TEACHING AND EVALUATING PHYSICS AND MATHEMATICS 3 s.h.**

This course is designed for those students desiring to become certified in both Physics and Mathematics. It contains the modern methods of teaching and evaluating in both these disciplines, as described in the courses listed as Education 324 and 334, in that students will divide their time between these two methods courses according to schedule presented in consultation with the instructors in these courses. Observations and teaching experiences in area schools are included. Prerequisite: ED 327. Fall, annually.

**ED 401: METHODS OF ENVIRONMENTAL (OUTDOOR AND CONSERVATION) EDUCATION 3 s.h.**

Philosophy, history, development, theory, and methods of outdoor, conservation, and environmental education. Skills in developing material and activities. Relation of the out-of-doors to school curricula. Prerequisites: Education major, upper division standing. Each spring, and summer on demand.

**ED 403: FIELD EXPERIENCE IN ENVIRONMENTAL EDUCATION 3 s.h.**

(McKeever Center in Sandy Lake, Pa. will be utilized for presentation of this course.)

This course focuses on the application of current educational concepts, i.e., learning stations, team teaching, creative writing, dramatic role playing, and other creative activities to outdoor education. The relationship of all curriculum areas to outdoor education is examined and practiced. The course may be taken for graduate credit with the approval of the Education Department Chair and the instructor. Offered for two weeks at a time between the end of the spring semester and the beginning of regular summer school only.

ED 423, 424: LIBRARY PRACTICE AND SECONDARY STUDENT TEACHING (6.6)-12 s.h.

Two major assignments are required: The equivalent of one-half time in public school library practice and the equivalent of one-half time in classroom academic teaching, both under the supervision of approved cooperating librarians and teachers in public school student teaching centers affiliated with the University. Fall semester, annually.

ED 424: SECONDARY STUDENT TEACHING 1-12 s.h.

Observation and participation in teaching and in activities related to the performance of a teacher's work in the area of the student's specialization. Assignments for secondary student teaching are completed at off-campus public school teaching centers associated with the University. Each semester.

ED 427: EXCEPTIONALITIES IN THE REGULAR CLASSROOM: IDENTIFICATION AND SERVICES 3 s.h.

This course is designed to prepare students to deal with the nature and needs of the exceptional person in a regular classroom. Contemporary methods of identification, services for the exceptional individual and legal aspects of the least restrictive environment are examined. Prerequisite: ED 122. Each semester.

ED 432: STUDENT TEACHING IN MUSIC 10 s.h.

Observing and teaching, under supervision, in vocal and instrumental music in the elementary, junior and senior high school. Each semester.

ED 434/534: WORKSHOP IN EDUCATION 3 s.h.

The workshop provides opportunities for in-service teachers to encounter new ideas, knowledge, and methods in meeting problems in today's schools. Prerequisite: teaching experience in the elementary or secondary schools.

ED 450: INDEPENDENT STUDY 1-3 s.h.

This course is designed to provide students with opportunity to explore an area of special need or interest in Education in depth under the supervision of a member of the department. Students must develop a proposed study plan and secure the approval of the proposed director and department chair prior to registration. Prerequisite: Junior or Senior standing.

ED 499/599: SPECIAL TOPICS IN EDUCATION 1-3 s.h.

Examines current topics and issues in education. Topics, which will be announced in advance, will focus on the needs and interests of in-service educators.

## **Elementary Education**

### **Early Childhood Education**

ECH 121: CHILD DEVELOPMENT 3 s.h.

Acquisition of understanding and appreciation of the cognitive, psychosocial, and physical dimensions of child development. Emphasis on individual differences in personality, growth, abilities and interest. Stress on the holistic and systemic development of the young human organism. Lectures, films, discussions, and first hand involvement with young children are included. Each semester.

ECH 231: CREATIVE ACTIVITIES — ART AND MUSIC 3 s.h.

Exploration of the nature and value of creativeness together with classroom opportunities for its development. Simulated teaching experiences that employ creative teaching in the areas of art, music and aesthetics. Each semester.

**ECH 235: CLASSROOM PARTICIPATION AND ASSESSMENT 3 s.h.**

Students are involved in classroom participation two hours weekly for eight weeks at the kindergarten/preschool level and for eight weeks in a primary classroom (1-3). Lectures focus on early childhood education as a career, relevance of course from other disciplines, and application of theories and concepts of child development.

**ECH 323: EARLY CHILDHOOD COMMUNICATION PROCESSES 3 s.h.**

The course focuses on the oral language experiences of the child from birth through age eight. The early graphic experiences of children in kindergarten through grade three are also examined. Commercially produced and teacher made oral language activities as well as graphic learning activities in encoding and decoding are demonstrated and evaluated. Prerequisite: ED 327.

**ECH 324: MATHEMATICS LEARNING EXPERIENCES FOR EARLY CHILDHOOD 3 s.h.**

This course examines activities and experiences designed and recommended by the National Council of Teachers of Mathematics. Pre-number experiences for young children stress the development of concepts through manipulation, observation, and oral language. Early number experiences for kindergarten and the primary grades are examined. Prerequisite: ECH 121.

**ECH 333: DEVELOPMENTAL PROGRAMMING FOR INFANTS AND TODDLERS 3 s.h.**

This course examines the content of child development from birth through age three. Focus is placed on the normal processes of language, cognitive, social/affective, motor development, and on strategies for stimulating development in these areas. Instructional methods include lectures, films, examination of model programs, case studies, simulation exercises, group and individual projects. Prerequisite: ECH 121. Fall, annually.

**ECH 334: EARLY CHILDHOOD SUPERVISION 3 s.h.**

The course comprehensively reviews the emergence and evolution of ideas, philosophies, and theories affecting only childhood education in order to highlight their historical continuity with current issues and trends. Management of early childhood programs is examined in terms of time and space utilization, instructional strategies, management of student behavior, and parent-teacher relationships. Prerequisite: Junior standing.

**ECH 335: EARLY CHILDHOOD CURRICULUM 3 s.h.**

This course examines the function of curriculum in relation to Early Childhood Education and the growth and development of young children. Emphasis will be placed upon the components of curriculum for pre-kindergarten, kindergarten, and the primary grades. Students will experience practical application in designing curriculum, creating learning centers, and developing units. Prerequisite: ECH 334 or permission of instructor.

**ECH 401: CREATIVE RESPONSE TO CONFLICT: SOCIALIZATION AND DEVELOPMENTAL VIEWPOINTS 3 s.h.**

The course is designed to support the participants in understanding theory and in planning techniques of conflict resolution. The course examines and practices cooperation (community building), communication effectiveness, and affirmation (self-concept) as primary components for actual creative responses to personal and group conflicts. Human capabilities for resolving conflicts at various life stages and in various situations are examined and practiced. Spring, annually.

**ECH 420: INCIDENTAL LEARNING 3 s.h.**

The course examines incidental learning gained by young children through their interactions with the people and products of their society's major institutions. It asks such questions as these: how do children learn as incidental by-products of these interactions; how can teachers, for example, plan encounters (with people, materials, and environments) so

that the encounters contribute to children's learning goals rather than subvert them. Fall, annually.

**ECH 424: EARLY CHILDHOOD STUDENT TEACHING 1-12 s.h.**

Participation in two assignments under the direction of cooperating teacher and a college supervisor in an elementary school kindergarten experience or an approved early childhood program and a primary grade experience in a selected elementary school. Students are limited to 15 credits for the semester. Open only to students who are meeting the selection and retention standards of the college. Each semester.

## Elementary Education

**ELED 323: TEACHING OF READING 3 s.h.**

An overview of the physiological and psychological aspects of reading and the materials and methods applicable for group and individual instruction in the elementary grades. Prerequisite: ED 327. Each semester.

**ELED 324: TEACHING OF ELEMENTARY SCHOOL MATHEMATICS 3 s.h.**

This course examines topics from both the "traditional" and "modern" elementary school mathematics instructional program. Emphasis is placed upon the scope and development of the subject matter of some of the more recent programs and upon the recent psychological contributions in the area of the conceptual stages, styles and tempos related to teaching elementary school mathematics. The development and implementation of a repertoire of mathematics teaching strategies, instructional media, and diagnostic procedures are stressed throughout the course. Prerequisites: MATH 111 or higher and ED 327. Each semester, summer.

**ELED 325: TEACHING ELEMENTARY SCHOOL SOCIAL STUDIES 3 s.h.**

A course coordinating theory and practice in the teaching of elementary school social studies. An historical perspective and examination of current national curriculum programs is developed along with methods and materials applicable to unit type teaching in the social studies. Emphasis is placed on selection organization and evaluation of materials and experiences that foster the inquiry approach in social studies. Skills and competencies developed in ED 325: Multicultural Education, will be applied. Prerequisite: ED 327. Each semester.

**ELED 326: READING PROBLEMS IN THE ELEMENTARY SCHOOL 3 s.h.**

Provides theory and practicum for the remedy of reading and learning problems in the classroom, and the diagnostic tools and methods with which to discover and correct the academic, emotional, and physical factors involved in children with specific and non-specific learning disorders in the field of reading. Prerequisite: ELED 323. Each semester, summer.

**ELED 330: COMMUNICATION ARTS IN THE  
ELEMENTARY SCHOOL 2 s.h.**

Pre-service teachers are required to develop teaching strategies in the communication arts at the elementary school level. In a series of learning modules set in a workshop atmosphere, students prepare techniques and methods of instruction to be integrated into the process of communication for children. Prerequisite: ED 327. Each semester.

**ELED 331: CHILDREN'S LITERATURE 3 s.h.**

The course directs students in the study of the historical growth and development of children's books. Pre-teaching students are required to develop teaching strategies to introduce literature to children, to extend children's language experiences, and to develop children's aesthetic appreciation for literature and art in a program which integrates literary activities across the curriculum. Skills and competencies developed in ED 325: Multicultural Education will be applied. Prerequisite: ED 327. Each semester.

ELED 424: ELEMENTARY STUDENT TEACHING 1-12 s.h.

Observation and participation in teaching and in activities related to the performance of a teacher's work. The semester's program is divided into two student teaching assignments involving experiences at two grade levels. Most assignments for elementary student teaching are completed at public school off-campus student teaching centers associated with the University. Each semester.

ELED 423,424: LIBRARY PRACTICE AND ELEMENTARY STUDENT TEACHING (6.6)-12 s.h.

Observation and participation in teaching and in activities related to the performance of a teacher's work. The semester's program is divided into two teaching assignments involving experience at one grade level and an elementary school library. Most assignments for elementary student teaching are completed at public school off-campus student teaching centers associated with the University. Each semester.

## English

ENG 105: BASIC COMPOSITION 3 s.h.

Provides instruction in the fundamentals of writing. Students are preassigned to ENG 105. All students who take English 105 must also take ENG 111: English Composition. Each semester.

ENG 111: ENGLISH COMPOSITION 3 s.h.

Emphasizes the development of practical skills in expository writing through writing experiences and the study and analysis of prose models. When necessary, work is done in punctuation, basic grammar, and spelling. This course is a college-wide requirement; however, it may under some circumstances be exempted. Each semester.

Placement in ENG 105 or ENG 111 is based on the student's SAT verbal score. Students with SAT verbal scores of 350 or less must enroll in English 105; students with SAT verbal scores of more than 350 should enroll in ENG 111; students with SAT verbal scores of 580 or better are excused from ENG 111.

ENG 115: COMPOSITION FOR INTERNATIONAL STUDENTS 3 s.h.

Helps ESL writers to develop an understanding of the English grammar system, to discern the systematic patterns that exist in the language, to develop a vocabulary in order to express their ideas in English, and to recognize the rhetorical structure of the language. This course satisfies the requirement for ENG 111. Each semester.

ENG/SCT/HON 125: MODES OF DISCOURSE 6 s.h.

Integrates the students' production of both written and spoken discourse. The course is an alternative method of teaching communication, and draws upon the skills of instructors from English and Speech Communication Theatre. Taken by freshmen enrolled in the Honors Program, and will replace both ENG 111 and SCT 113. (Not open to students who have taken ENG 111 or SCT 113.)

ENG 170: THE LITERARY EXPERIENCE 3 s.h.

Provides a wide selection of literature to introduce the student to various literary genres. No prerequisite. Recommended for all students. Each semester.

ENG 172: MOVIE STUDIES 3 s.h.

Explores how movies "mean" through readings of various classic and popular texts, how movies construct viewers, and how they simultaneously mirror and create the cultures of which they are a part. No prerequisites. Each semester.

- ENG 174: INTRODUCTION TO DRAMA AS LITERATURE 3 s.h.**  
Introduces students to the formal properties/features that both link drama to and separate it from prose fiction and poetry, in order to teach them the art of reading the text of a play so as to perceive the special cues it uses to stimulate imaginative engagement. No prerequisites. Each semester.
- ENG 200: COMPOSITION AND LITERATURE 3 s.h.**  
Stresses the writing of papers as a direct result of reading, analysis, discussion, and interpretation of a variety of literary types. The short story, the drama, and the poem may be examined from several points of view. Research techniques and related skills are utilized as needed. Prerequisite: exemption from or completion of the General Education English requirement. Each semester.
- ENG 201: ADVANCED WRITING 3 s.h.**  
Uses classical and contemporary theories of rhetoric to engage writers in the public discourse essential to a pluralistic society. Employs collaborative and interactive strategies emphasizing invention, arrangement, style, and audience awareness. Prerequisite: exemption from or completion of the General Education English requirement. Each semester.
- ENG 202: BEGINNING CREATIVE WRITING 3 s.h.**  
Introduces students to the techniques of creative writing in prose and poetry. Major emphasis is on writing practice for students and opportunities for guidance and critical examination of their work. Prerequisite: Completion of General Education English requirement. Fall, annually.
- ENG 203: THE CRAFT OF FICTION 3 s.h.**  
Provides extensive practice in the writing of short narrative fiction. Student work is subjected to intensive group criticism. Course standards roughly approximate those of commercial fiction editors. Prerequisite: ENG 201 or 202 or permission of instructor based on examination of writing samples. Spring, even-numbered years.
- ENG 204: THE CRAFT OF POETRY 3 s.h.**  
Provides the advanced writer intensive practice in the writing of poetry. A significant portfolio of high-quality poetry is expected of each participant by the end of the course. Prerequisite: ENG 201 or 202 or permission of instructor based on examination of writing samples. Spring, odd-numbered years.
- ENG 206: BUSINESS WRITING 3 s.h.**  
Meets the specific needs of students whose interests in written communications are oriented toward the world of business. Prerequisite: satisfactory completion of or exemption from the General Education English requirement. Each semester.
- ENG 209: SPECIAL TOPICS IN LITERATURE 3 s.h.**  
Focuses on themes and topics of universal and/or current interest as embodied in literature. The special subject of each semester's offerings will be announced in pre-registration. It is suitable for both English and non-English majors and may be taken up to three times for credit, provided that different topics are offered. On demand.
- ENG 211: VOICES IN CANADIAN POETRY 3 s.h.**  
Introduces the student to some of the major figures who have influenced the development of Canadian poetry since its inception in the nineteenth century. Works will be studied from traditional, modern and contemporary poets such as Carman and Scott, E. J. Pratt, A. J. M. Smith, Layton, Page, Atwood, Nowlan, Livesay, Ondaatje and others. No prerequisites. Fall, odd-numbered years.
- ENG 221: ENGLISH LITERATURE: BEGINNINGS TO 1800 3 s.h.**  
Surveys English Literature beginning with the Beowulf poem and extending through the works of such figures as Chaucer, Spenser, Shakespeare, Milton, Pope, and Swift. Fall, annually.

- ENG 222: ENGLISH LITERATURE: 1800 TO PRESENT** 3 s.h.  
Surveys English literature from 1800 and includes the works of such major writers as Wordsworth, Coleridge, Byron, Shelley, Keats, Tennyson, Browning, Hardy, Yeats and Eliot. Spring, annually.
- ENG 225: AMERICAN LITERATURE: BEGINNINGS TO 1860** 3 s.h.  
Surveys major periods and writers of American literature from its beginnings to 1860. It is designed to enable students to understand the continuities and discontinuities of American literature. Both historical and/or thematic approaches (e.g. the persistence of Puritanism, the quest for authenticity, and hero/ine as innocent, the garden vs. the city) may be utilized by the individual instructor. Fall, annually.
- ENG 226: AMERICAN LITERATURE: 1860 TO THE PRESENT** 3 s.h.  
Surveys major periods and writers of American literature from 1860 to the present. It is designed to enable students to understand the continuities and discontinuities of American literature. Both historical and/or thematic approaches (e.g. the alienated self, the impact of industrialization, the hero/ine as American, vision and revision) may be utilized by the individual instructor. Spring, annually.
- ENG 230: CONTEMPORARY BLACK AMERICAN LITERATURE** 3 s.h.  
Provides insight into the Black experience through the reading and discussion of the works of Black writers who have made significant contributions to literature. Fall, annually.
- ENG 249: SATIRE** 3 s.h.  
Provides the student with an understanding of what satire is, what it does and how it is related to other literary modes. Students will analyze targets and satiric techniques in such forms as fiction, poetry, art, music, films and television satire. No prerequisite. Fall, annually.
- ENG 250: STUDIES IN WESTERN MYTHOLOGY** 3 s.h.  
Concentrates upon Greco-Roman and British (Arthurian) legends in order to demonstrate the systematic nature and recurrent patterns of mythology. It is designed not only to give the student a thorough knowledge of content but to clarify questions of form. Spring, annually.
- ENG 252: INTRODUCTION TO THE ENGLISH LANGUAGE** 3 s.h.  
Deals generally with the nature of language and specifically with the structures of modern English, its regional and social varieties, and certain highlights of its historical development. Each semester.
- ENG 253: ENGLISH GRAMMAR AND USAGE** 3 s.h.  
Provides an intensive study of English grammar and problems in usage. Each semester.
- ENG 270: TRAINING FOR WRITING CENTER TUTORS** 1 s.h.  
In four meetings of three hours each, instructs tutors in methods of explaining to students the nature of writing problems and corrective measures to be taken. Prerequisites: Tutors are accepted by invitation only on the basis of performance in writing courses; grade point average must equal or exceed 3.0. Fall, annually.
- ENG 303: SIXTEENTH CENTURY PROSE AND POETRY** 3 s.h.  
Examines the non-dramatic literature of the sixteenth century focusing upon Sidney, Spenser, and Shakespeare. Fall, odd-numbered years.
- ENG 305: STUDIES IN SEVENTEENTH CENTURY ENGLISH LITERATURE** 3 s.h.  
Explores works of such figures as Bacon, Browne, Jonson, Donne, Herbert, Marvell, and Milton. On demand.

- ENG 306: SCIENTIFIC AND TECHNICAL WRITING 3 s.h.**  
Provides experience in writing practical prose in a variety of scientific and/or technical settings for a broad spectrum of readers. Involves techniques of writing documents of definition, mechanism, and process description; sets of instructions; proposals and reports; and the use of appropriate document-and-graphic designs. Especially useful to majors in biology, chemistry, computer science, laboratory technology, nursing, physics, and others. Prerequisite: Junior standing. Each semester.
- ENG 307: STUDIES IN EIGHTEENTH CENTURY ENGLISH LITERATURE 3 s.h.**  
Provides a critical examination of the works of such representative writers as Dryden, Pope, Swift, Boswell, Johnson, and Goldsmith. Spring, even-numbered years.
- ENG 311: STUDIES IN NINETEENTH CENTURY ENGLISH LITERATURE 3 s.h.**  
Provides an intensive examination of works by such representative writers as Carlyle, Newman, Tennyson, Browning, Arnold, and Morris. Spring, odd-numbered years.
- ENG 325: EARLY AMERICAN LITERATURE 3 s.h.**  
Surveys 17th and 18th century American literature, emphasizing the impact of Puritanism. Bradstreet, Taylor, Edwards, and Franklin are among the major figures studied. The course also deals with the Revolutionary era and the attempts to mold a distinctively "American" literature. Spring, even-numbered years.
- ENG 326: AMERICAN ROMANTICISM 3 s.h.**  
Studies a selected group of writers to illustrate their contributions to American art and thought and their relationships with the development of Romanticism in the first half of the 19th century. Emphasis is given to Poe, Hawthorne, Melville, Emerson, Thoreau, and Whitman. Fall, annually.
- ENG 327: AMERICAN REALISM AND NATURALISM 3 s.h.**  
Studies a selected group of writers to illustrate the development of realism and naturalism in American literature in the latter half of the 19th century. Emphasis is given to Twain, James, Howells, Crane, Norris, and Dickinson. Spring, annually.
- ENG 328: AMERICAN LITERATURE FROM 1900-1945 3 s.h.**  
Surveys the major developments in American writing and the contexts in which they originated from the turn of the century until the end of World War II. Poets include Frost, Eliot, W. C. Williams, Pound, Cummings, Millay, Cullen, and others; prose writers include Wolfe, Hemingway, Faulkner, Richard Wright, Steinbeck, Toomer, and others. Dramatists include O'Neill and Tennessee Williams. Fall, annually.
- ENG 329: CONTEMPORARY AMERICAN LITERATURE 3 s.h.**  
Investigates the very idea of a canon for American literature since WWII and discusses strategies for reading such representative authors as Roth, Coover, Oates, and Morrison. Spring, annually.
- ENG 332: NINETEENTH CENTURY BRITISH NOVEL 3 s.h.**  
Explores the English novel from Austen to Hardy. Nine or ten novels are studied with selections from Austen, Scott, Eliot, Dickens, Thackeray, Disraeli, Meredith, Trollope, the Brontës, Gaskell. No prerequisite; however, one semester of English literature survey (ENG 221 or 222) is recommended. Fall, annually.
- ENG 333: TWENTIETH CENTURY BRITISH NOVEL 3 s.h.**  
Provides an in-depth study of the modern British novel from its beginnings in the late nineteenth century to the present. Nine or ten novels are intensely examined, with selections from such authors as Hardy, Conrad, Wilde, Lawrence, Joyce, Forester, V. Woolf, A. Huxley, Orwell, Green. No prerequisite; however one semester of English literature survey (ENG 221 or 222) recommended. Spring, annually.



- ENG 339: SHORT FICTION OF THE TWENTIETH CENTURY 3 s.h.**  
Concentrates on the developments in the short story of the twentieth century. Readings are drawn from such modern writers of wide reputation as Kafka, Joyce, Faulkner, Camus, and Lagerkvist. Fall, annually.
- ENG 341: TWENTIETH CENTURY POETRY 3 s.h.**  
Provides explication and discussion of works by such writers as Yeats, Frost, Eliot, Auden, Roethke, and Lowell. Fall, odd-numbered years.
- ENG 342: ENGLISH DRAMA TO 1642 3 s.h.**  
Presents an overview of the development of English drama in its first two phases, concentrating particularly on the great drama produced in the Renaissance by Shakespeare's contemporaries. Students will discuss the plays as literature while taking account of the relevant theatrical considerations. No prerequisites. Fall, odd-numbered years.
- ENG 343: ENGLISH DRAMA FROM 1660 TO 1850 3 s.h.**  
Presents a selective look at some of the major forms of drama in this extremely varied two-hundred-year period, with possible focuses on, for example, heroic tragedy, Restoration Comedy, Sentimental Comedy, Victorian Melodrama, and the precursors of modern English drama. Lectures, discussions, imaginary scene-stagings, and where possible, trips to productions will be used. No prerequisites. Fall, even-numbered years.
- ENG 344: MODERN DRAMA TO 1950 3 s.h.**  
Surveys influential dramatic literature of the Continental, British, and American theatre from 1850 to 1950 through lectures, discussion, and experiences related to the modern stage. No prerequisites. Spring, even-numbered years.
- ENG 345: CONTEMPORARY DRAMA 3 s.h.**  
Explores the diversity and vitality of Continental, British, and American theatre since 1950 through selected texts and theatrical experiences. No prerequisites. Spring, odd-numbered years.
- ENG 355: TOPICS IN LITERARY THEORY 3 s.h.**  
Provides a historical study of literary criticism and aesthetic theory with emphasis upon modern trends. On demand.
- ENG 365: IMAGES OF WOMEN IN LITERATURE 3 s.h.**  
Examines several stereotypes of women reflected in myth and literature and formed by the historical, sociological and psychological forces which shape our perceptions of the self and of the other. The study of these images is informed by the study of the craft of literature, how things such as imagery and point of view enable the writer to successfully convey his or her idea, story. Spring, annually.
- ENG 370: LITERATURE FOR YOUNG ADULTS 3 s.h.**  
Introduces future teachers to the field of literature for young adults by providing them with the opportunity to read and discuss examples of classical and contemporary adolescent literature. In addition to developing first-hand knowledge of important works in the field, students will also become familiar with its history and with the controversies which have shaped it.
- ENG 372: MOVIE GENRES 3 s.h.**  
Explores genre as sets of narrative conventions that have vitalized mainstream American film. Genre is demonstrated to be a socializing force as well as a mirror of social change. Two or three genres are highlighted each time the course is offered. With additional requirements also listed for graduate credit as ENG 572. On demand.

- ENG 401: CHAUCER** 3 s.h.  
Studies in Middle English Chaucer's early poems, *Troilus and Criseyde*, and the *Canterbury Tales*. Fall, even-numbered years.
- ENG 412: SHAKESPEARE: COMEDIES AND HISTORIES** 3 s.h.  
Provides study and discussion of problems of style, characterization, and motivation in Shakespeare's experimental and maturing comedies, chronicle and Roman plays, and tragedies. Plays to be selected from the first two periods of Shakespeare's creative production. Fall, annually.
- ENG 413: SHAKESPEARE: TRAGEDIES AND ROMANCES** 3 s.h.  
Provides study and discussion of problems of style, characterization, and motivation in Shakespeare's mature comedies, Roman plays, tragedies, and romances. Plays to be selected from the last two periods of Shakespeare's creative production. Spring, annually.
- ENG 441: WRITERS IN REVOLT: ENGLISH ROMANTICISM** 3 s.h.  
Considers the major works of Wordsworth, Coleridge, Byron, Shelley, Keats and their contemporaries and relates them to the intellectual, political, and social currents of the time. Spring, even-numbered years.
- ENG 455: STUDIES IN DRAMA AND DRAMATIC THEORY** 3 s.h.  
Provides an intensive exploration of drama, concentrating especially on contemporary developments in both drama itself and in the theoretical study of drama, including recent critical attempts to synthesize literary and theatrical approaches into a new poetics. The exact focus of the course will vary with each offering. No prerequisites. On demand.
- ENG 456: ENGLISH HONORS SEMINAR** 3 s.h.  
Offers an intensive study of selected writers and their works. The seminar is designed to offer excellent students opportunities for advanced and unusually challenging study in literature. Admission by departmental invitation. On demand.
- ENG 457: INTRODUCTION TO LINGUISTICS** 3 s.h.  
Presents basic theories and analytical procedures used in contemporary linguistics systems. An introduction to psycholinguistics is provided in conjunction with extensive studies in transformational grammar. Fall, annually.
- ENG 458: HISTORY OF THE ENGLISH LANGUAGE** 3 s.h.  
Provides a study of the history of the language including its origins and changes in structure, usage, pronunciation, spelling, vocabulary, and meaning. Intensive readings in Old and Middle English. With additional requirements, also listed for graduate credit as ENG 558. Spring, odd-numbered years.
- ENG 459: LANGUAGE ACQUISITION: RESEARCH AND APPLICATIONS** 3 s.h.  
Introduces current research in language acquisition through a survey of classic and recent research on the acquisition process within the framework of a major model of language acquisition. Emphasis will be on the student's ability to grasp the principles of the relevant research and critically evaluate the research. Prerequisites: ENG 253: English Grammar & Usage or equivalent courses.
- ENG 460: INDEPENDENT STUDY** 1-6 s.h.  
Permits students to explore an area of special interest in the English language or its literature. Students must develop a plan of study, secure the approval of a member of the English faculty willing to supervise the project, and submit the plan to the department chair. Maximum credits — 6. Prerequisite: junior or senior standing.

**ENG 461: WRITERS' WORKSHOP** 3-6 s.h.  
Provides an opportunity for students of writing to work with professionals in the congenial give-and-take atmosphere of the workshop situation. Visiting writers and/or coaches of writing may be in residence to work with students who wish writing experience in a variety of modes. Summers only.

**ENG 482: COMPOSITION: THEORY AND PRACTICE** 3 s.h.  
Provides a systematic study of theory, research, and practice in the teaching of composition, conducted through workshop methods. The course requires extensive writing and a major written project. Prerequisites: Secondary education majors in English must have completed ENG 111, 200, or 201, and have taken or be taking their Methods course; others by permission of the instructor. With additional requirements also listed for graduate credit as ENG 582. Fall, annually.

**ENG 499: SENIOR SEMINAR** 3 s.h.  
Explores in a seminar setting a theme, an idea, or an issue beyond the scope of individual courses. Primary literature and relevant criticism will be dealt with. A major paper is required of all participants; other course requirements will be established by the instructor prior to the semester of offering. Required of senior liberal arts English majors. Fall, annually.

## Environmental Studies

**ENVR 401: ENVIRONMENTAL PROBLEMS IN SOCIETY** 3 s.h.  
Interdisciplinary study of how the human species and their social institutions interact with the physical and biological systems of the environment. Fall, annually.

**ENVR 475: FIELD NATURAL HISTORY** 3 s.h.  
Competencies in biology, meteorology, geology, and astronomy are explored. Emphasis is placed on developing competencies which will be valuable in teaching Environmental (Outdoor and Conservation) Education. For non-science majors. Prerequisites: Upper division standing. Spring, annually.

*NOTE: For additional courses related to Environmental Education certification endorsement, see ART 373, ED 401, and ELED and ED 403.*

## Finance

**FIN 370: FINANCIAL MANAGEMENT** 3 s.h.  
A study of the theoretical and analytical framework that a financial manager can use to make decisions in a dynamic economy. Planning the need for funds, acquiring funds, and efficiently utilizing those in domestic and multinational firms are some of the topics covered. Prerequisites: ECON 212 and ACTG 252. Each semester.

**FIN 373: FUNDAMENTALS OF INSURANCE** 3 s.h.  
A survey of the principal methods of handling risk with particular attention to the various types of insurance and how they relate to business and personal affairs. Insurance areas covered will include Life, Accident and Health, Social, Fire and Allied Lines, Transportation Casualty and Surety. Principles of selecting insurance for the firm and private citizen will be discussed. Fall, annually.

**FIN 374: PROPERTY AND CASUALTY INSURANCE** 3 s.h.  
Treatment of property and liability exposures by application of coverages—fire and allied lines; inland and ocean marine, and casualty and surety bonding. Attention will be paid to rating, underwriting, loss prevention, claims administration and corporate risk management. Prerequisite: FIN 373. Spring, annually.

FIN 375: MANAGEMENT OF FINANCIAL INSTITUTIONS 3 s.h.

A descriptive analysis of the operations of financial institutions, such as commercial banks, savings banks, insurance companies. Examines techniques and principles involved in the management of financial institutions. Prerequisites: ECON 211 and FIN 370. Spring annually.

FIN 376: SECURITY MARKETS 3 s.h.

Analysis of the organization and operation of stock and bond markets; security speculations; brokerage houses, exchange relations with other institutions; security price behavior; exchange regulation; and risk types and returns from securities. Prerequisite: FIN 370. Fall, annually.

FIN 377: MEDICAL CARE FINANCE 3 s.h.

The role of a financial manager in the health care setting. A study of the theoretical and analytical procedures involved in medical fund raising, capital budgeting, expense analysis, rate structuring and hospital asset management as well as other financial abilities required in the operation and planning of modern health care facilities. Prerequisite: FIN 370. Once, annually.

FIN 471: FINANCIAL PROBLEMS 3 s.h.

A consideration by the case method of the financial problems of business firms. Prerequisite: FIN 370. Fall, annually.

FIN 473: RETIREMENT AND ESTATE PLANNING 3 s.h.

An overview of individual income taxation, including an in-depth look at pensions, profit sharing, and other deferred compensation plans, estates, trusts, and applicable tax laws. Prerequisite: FIN 370. Once annually.

FIN 476: SECURITIES ANALYSIS 3 s.h.

A study of securities as an investment device, and the study of techniques of analysis used in selecting securities. Prerequisite: FIN 376. Spring, annually.

FIN 480: MULTINATIONAL FINANCIAL MANAGEMENT 3 s.h.

The theory and practice of financial management in the multinational firms; focuses on important differences between domestic and international financial decision making. Prerequisite: FIN 370. Once annually.

## French

In addition to courses listed below, students of French have an opportunity to study for a summer, a term, or an entire academic year in France and/or Canada. An opportunity to participate in a program of international business internships is made available to qualified students.

FR 101: SPECIAL TOPICS: THE EUROPEAN MIND 3 s.h.

Historical and contemporary developments on the European intellectual scene are covered by experts on individual countries with regard to their relevance for the present American student generation.

The special subject is announced at pre-registration. Open to all students of the university without prerequisites and may be taken up to three times for credit provided that different topics are offered. Two-year cycle.

FR 109: FRENCH LITERATURE IN TRANSLATION 3 s.h.

A study of representative French literary works, with particular emphasis on the characters and ideas which have influenced both French and other literatures. The course is conducted in English; no knowledge of French required; no prerequisite.

- \*FR 150: INTENSIVE ELEMENTARY FRENCH** 6 s.h.  
Equivalent to FR 151 and 152 offered every fall.
- FR 151: FRENCH I (ELEMENTARY I)** 3 s.h.  
Essentials of grammar with emphasis on aural comprehensive and oral expression. Each semester.
- FR 152: FRENCH II (ELEMENTARY II)** 3 s.h.  
Continuation of FR 151, with increasing emphasis on graded reading material. Prerequisite: FR 151 or equivalent. Each semester.
- FR 153: ELEMENTARY FRENCH CONVERSATION** 3 s.h.  
Conversational practice, with extensive oral drill on grammatical patterns. Designed for those students who have met the prerequisites for FR 251 but are lacking in aural-oral proficiency. May be taken concurrently with FR 251. Spring, annually.
- FR 225: INTRODUCTION TO FRENCH PHONETICS AND PRONUNCIATION** 3 s.h.  
An introduction to the French phonetic system, including the study of phonemes, intonation, stress and rhythm. Intensive aural/oral training through phonetic dictation with transcription in the International Phonetic Alphabet and practice in diction. Introduction to corrective phonetics. Recommended for majors. Prerequisite: FR 152 or equivalent. Three-year cycle.
- \*FR 250: INTENSIVE INTERMEDIATE FRENCH** 6 s.h.  
Equivalent to FR 251 and 252 offered every spring.
- FR 251: FRENCH III (INTERMEDIATE I)** 3 s.h.  
Systematic review of basic grammar; graded readings, conversation, translation, and composition on selected topics. Prerequisite: FR 152 or two years of high school study and/or satisfactory placement. Fall, annually.
- FR 252: FRENCH IV (INTERMEDIATE II)** 3 s.h.  
Intensive reading of selected works; outside reading, with oral and/written reports. Prerequisite: FR 251 or satisfactory placement. Spring, annually.
- FR 253: COMMERCIAL FRENCH** 3 s.h.  
A study of commercial terminology and style, with extensive writing of business letters of various kinds. Prerequisite: FR 152 or equivalent. Two-year cycle.
- FR 255: FRENCH CIVILIZATION I** 3 s.h.  
A survey of French geography, history, literature, and culture designed to equip students with the materials and understanding necessary to the presentation of the language as a rich, meaningful, and integral part of a great civilization. Prerequisite: FR 252 or four years of high school study and/or satisfactory placement. Required of French majors. Three-year cycle.
- FR 256: FRENCH CIVILIZATION II** 3 s.h.  
Continuation of FR 255, which is prerequisite. Required of French majors. Three-year cycle.
- FR 260: THE FRENCH SHORT STORY** 3 s.h.  
A study of representative short stories of the nineteenth centuries. All readings and discussions in French. Three-year cycle.
- FR 265: INTERMEDIATE CONVERSATION** 3 s.h.  
Practice creative language use in conversation, to develop proficiency for everyday situations and travel at intermediate level. Intensive vocabulary enrichment for students who have completed elementary or intermediate language courses and are lacking in aural-oral

proficiency. May be substituted for either FR 251 or 252 or used for major credit. Two-year cycle.

**FR 351: ADVANCED FRENCH GRAMMAR AND COMPOSITION 3 s.h.**

Intensive oral and written drill with emphasis on finer points of grammar, colloquial, and idiomatic usage. English-to-French translation, free composition, and conversation of everyday topics. Prerequisites: FR 255 and 256 or one literature course. Three-year cycle.

**FR 353: DEVELOPMENT OF THE FRENCH DRAMA 3 s.h.**

A study of the development of French drama from medieval drama to modern drama. Selections from medieval *mysteries*, *miracles*, and *jeux*, to the theatre of the absurd. Three-year cycle.

**FR 354: DEVELOPMENT OF THE FRENCH NOVEL 3 s.h.**

A study of the development of the French Novel from the medieval romance to the *roman nouveau*. Selections from major authors from Chretien de Troyes to Nathalie Sarraute. Three-year cycle.

**FR 356: DEVELOPMENT OF FRENCH POETRY 3 s.h.**

Development of French Poetry from the Middle Ages to Modern Times. A study of poetic form from the ballad to free verse. Three-year cycle.

**FR 358: FRENCH THINKERS 3 s.h.**

A study of major French Thinkers from 16th, 17th and 18th centuries. Rabelais, Montaigne, Pascal, Descartes, Montesquieu, Voltaire, Diderot and Rousseau. Three-year cycle.

**FR 360: FRENCH CANADIAN WRITERS 3 s.h.**

A study of the major trends in French Canadian theatre, prose and poetry with concentration on Gelinas, Anne Hebert, Theriault, Gabrielle Roy, Nelligan, and Grandbois. Three-year cycle.

**FR 361: BLACK WRITERS IN FRENCH LITERATURE 3 s.h.**

A study of the major trends in African Literature written in French. Selections from among the works of Jacques Roumain, Sembene Ousmane, Amadou Kourouma, Francis Bebey, Ferdinand Oyono, Leopold Sedar Senghor, Ame Cesaire, Leo Damas, Bernard Dadie and others. Three-year cycle.

**FR 451: SUPERVISED READINGS IN FRENCH LITERATURE 3 s.h.**

As the title suggests, the course is devoted to selected readings determined in relation to the needs and interests of the individual major. On demand.

*\*As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may only receive three (3) credits for them, i.e., the three (3) credits they would normally receive for a 152 or 252 course.*

## General Studies

Courses carrying the GS label are interdisciplinary in nature or are courses which do not fit into any of the usual academic disciplines. They are taken as free electives, as Personal Development and Life Skills under general education, or may with departmental approval be substituted for required courses in some majors.

GS 100: COLLEGE READING/STUDY SKILLS 2 s.h.

This course develops the reading/study skills required at the college level. Students are helped to organize study plans according to the purpose of the assignment and the nature of the materials. Emphasis is placed on applying these skills to courses students are currently studying. No prerequisite. Each semester.

GS 109: FOREIGN LITERATURE IN TRANSLATION 3 s.h.

Offered by the Department of Modern Language and Cultures, listed as FR 109, GER 109, RUSS 109, or SPAN 109.

GS 110: THE STUDENT IN THE UNIVERSITY 3 s.h.

This course is designed to (1) enable freshman students to explore and understand themselves as developing adults interacting in a higher education environment; (2) identify and/or utilize campus and community resources that will enhance their academic program; (3) develop strategies to facilitate the learning process; and (4) apply those strategies in practical manner in order to build upon a resource base for academic skill transference. Note: This course is designed for freshman students only and is a general elective under Personal Development and Life Skills. Each semester.

GS 123: INTRODUCTION TO LOCATING AND ORGANIZING INFORMATION 3 s.h.

Study of information sources and information organization; methods for surviving information explosion. Recommended as an elective for non-library science students. Not creditable toward library science specialization. GS 123 earns credit toward graduation only when taken by freshmen and sophomores. Juniors and seniors will receive credit, but such credit will not count toward graduation. On demand.

GS/ECON 140: CONSUMER ECONOMICS 3 s.h.

Major aspects of personal financial management including budgeting of income and expenditures, transactions and relations with banks and other lending institutions, insurance and retirement plans, home ownership, personal taxes, savings and investment plans. Alternate years.

GS/PSY 220: HUMAN SEXUALITY 3 s.h.

A basic course in self-understanding. The student is given the opportunity to be informed on (a) the physical, psychological, ethical, social, and legal components of sexuality as they relate to attitudes toward self and others; (b) the roles involved in being male and female; (c) relationships as they are affected by attitudes; and (d) the responsibilities of such relationships. Each semester.

GS 222: CREATIVE PROBLEM SOLVING 3 s.h.

An investigation of the elements of solving a variety of problems, beginning with closed problems such as puzzles or cryptograms and progressing through simple games and complex games to the complexities of open ended problems of personal and political life. Emphasis is on development of proficiency in dealing with new situations and techniques through actual practice. No prerequisite. Each semester.

GS 225: HUMAN GENETICS AND SOCIETAL PROBLEMS 3 s.h.

Technological and medical advances pose serious threats to the quality of our genetic future. The relationship between major advances in genetic knowledge and their significance, both immediate and potential, are presented and discussed. The medical and social

benefits and risks of large scale genetic screening, genetic counseling and prenatal diagnosis with abortion are thoroughly explored. The theoretical and practical possibilities of genetic engineering are considered in the light of contemporary human values. A paper on some aspects of societal problems involving human genetics is required. This course does not meet the genetics requirements for a biology major. Prerequisite: Basic Biology or permission of the instructor. Alternate years on demand.

GS 230: SPECIAL TOPICS — THE EUROPEAN MIND 3 s.h.

Offered by the Department of Modern Languages and Cultures, listed as FR 101, GER 101, RUSS 101, SPAN 101. See course description under appropriate language listings.

GS 242: YOU AND THE LAW 3 s.h.

A survey of the major fields of law with an emphasis on historical development, basic legal principles, legal theory and procedure, and their relation to the individual. Business Administration majors may not take this course. Annually.

GS 250: THE LIFE AND MINISTRY OF JESUS 3 s.h.

A study of the life and ministry of Jesus in the light of modern contemporary biblical scholarship. Sophomore standing. Alternate years on demand.

GS 255: SURVEYING 3 s.h.

Use of the transit, angle mirror, bysometer, sextant, and other measuring instruments; simple map-making exercises and elementary surveying; construction — use of student-made instruments and teaching devices. Prerequisites: MATH 152 or 171 or equivalent. Summers, and on demand.

GS 411: SCIENCE AND SOCIETY 3 s.h.

See cross-listing under CHEM. 211.

## Geography

*NOTE: Geography courses carry social science credit only.*

GEOG 100: INTRODUCTION TO WORLD GEOGRAPHY 3 s.h.

A geographic study of human interaction with the global environment and resulting humanized, cultural landscapes. Students examine related problems of population and settlement, the origin and diffusion of culture elements, levels of culture, agricultural and industrial complexes, and other impact upon our deteriorating environment. Each semester.

GEOG 115: CONSERVATION OF NATURAL RESOURCES 3 s.h.

The use and conservation of the nation's resources of water, land, forest, wildlife, minerals, power, and human resources. Each semester.

GEOG 125: MAP INTERPRETATION 3 s.h.

A broad study of maps, charts, and atlases which is designed to develop an awareness of the great variety of maps available and to promote skill in their use. Emphasis is given to understanding map characteristics and properties needed for effective map usage, projections upon which maps are commonly drawn, co-ordinates and grid systems, map scales, aerial representations of relief, and statistical data. Prerequisite: Consent of instructor. Offered annually.

GEOG/ES 225: CARTOGRAPHY I 3 s.h.

A systematic study of the basic concepts and components of thematic map making. Emphasis is placed upon familiarization with and utilization of drafting instruments and equipment essential to map design and construction. Techniques of photographic reproduction



of student map projects are also presented. Two lectures and three hours of laboratory weekly. Prerequisite: GEOG 125 or consent of instructor. Offered annually.

**GEOG 250: GEOGRAPHY OF EUROPE 3 s.h.**

A study of European landscapes and regions, which seeks to develop an understanding of the geographic basis of Europe's major economic and social problems. Emphasis is upon western Europe; the Soviet Union is not included in this course. Recommended for majors in history and social science. Every other year.

**GEOG 252: GEOGRAPHY OF LATIN AMERICA 3 s.h.**

The course focuses on the complex social, economic, and political problems confronting this diverse region. Special attention is given to the relationships between Latin America, the United States, and other countries. Included is a synthesis of the physical and cultural landscapes of the region. An emphasis is placed on understanding developmental processes in Latin American nations and to understanding the geographical importance of the region today and in the 21st Century. No prerequisites. Offered occasionally.

**GEOG 257: GEOGRAPHY OF THE UNITED STATES AND CANADA 3 s.h.**

An analysis of geographic problems, natural and cultural, of the U.S. and Canada; the synthesis of physical, biotic, economic, and social patterns and problems of geographic regions of North America; the interrelationship of North American political structures and their ties with the rest of the world. Each semester.

**GEOG 258: GEOGRAPHY OF PENNSYLVANIA 3 s.h.**

A regional analysis of Pennsylvania, emphasizing human cultural and economic response to environmental factors. Special attention is given to the resources of the state, analyzing their extent, their use, the need for well directed conservation, and the regional planning program of the Commonwealth. Offered occasionally.

**GEOG 260: ECONOMIC GEOGRAPHY 3 s.h.**

The production, exchange, and use of the basic commodities of the world; the relationship between the physical factors and economic conditions and the patterns of major economic activities, world trade and trade routes; economic landscapes; problems of economic development. Recommended for majors in economics, history, and political science. Every other year.

**GEOG 265: TRADE AND TRANSPORTATION 3 s.h.**

A geographic inquiry into world-wide forces of supply and demand and related transport modes and media. The central producer and service functions of population centers; world trade patterns of commodities, economic blocs, stages of economic development; and problems related to the economic interdependence of regions and nations. A course based on concepts learned in GEOG 260. Every other year.

**GEOG 300: SPECIAL TOPICS**

Topics of special interest in various areas of physical, human or regional geography. The format used will be selected and designed by the professor as the most suitable to the study. Enrollment by consent of the instructor. Offered occasionally.

**GEOG/ES 325: CARTOGRAPHY II 3 s.h.**

A systematic study of the new dimensions of cartography in use today. Emphasis placed upon the techniques used in the construction of three-dimensional maps and models of statistical surfaces, diagrams, cartograms, negative scribing, and color separation. Two lectures and three hours of laboratory weekly. Prerequisite: Cartography I and consent of instructor. Every other year.

**GEOG/ES 345: COMPUTER CARTOGRAPHY 3 s.h.**

A systematic study of the newest dimension of cartography in use today. Designing and constructing computer maps is an integral part of the course. Background in computer programming is desirable. No prerequisites. Every other year.

GEOG 385 or

ES 385: CLIMATOLOGY

3 s.h.

A systematic study of three major components of climatology. Physical aspects of the atmosphere are analyzed as a series of long-term weather phenomena. Regional characteristics of climate are studied on the basis of world-wide patterns. Applied aspects of climate demonstrate the inter-relationship and importance of both physical and regional climatology to humankind. Acceptable for social science or natural science credit. Prerequisite: ES 111 or 280. Every other year.

GEOG/ES 400: AIR PHOTO INTERPRETATION

3 s.h.

A systematic study of aerial photographs for geographic investigation of physical and cultural features of the landscape; the application of remote sensing to topographic and planimetric map construction, agricultural and land use identification, landform study, and forestry. Prerequisite: consent of instructor. Every other year.

GEOG/ES 425: REMOTE SENSING

3 s.h.

A study of modern satellite based earth imaging instruments, data sources and products, and their applications to land use management, geologic assessments, agriculture, forestry, soil resources, archeology, meteorology and oceanography. Both visual and digital data will be utilized. Prerequisite: GEOG 400. Every other year.

GEOG/ES 450: FIELD GEOGRAPHY

3 s.h.

A systematic study of the techniques essential to geographic field investigation. Emphasis is placed upon practical, first-hand experiences in the field where students learn the techniques and procedures of compass traversing, plane tabling, rural and urban land use surveying, and field research. Prerequisite: Cartography I and consent of instructor. Offered occasionally.

## German

In addition to courses listed below, students of German have an opportunity to study for a summer, a term or an entire year in Germany and/or Austria. An opportunity to participate in a program of paid and unpaid internships in Germany and Switzerland is available for qualified students.

GER 101: SPECIAL TOPICS: THE EUROPEAN MIND

3 s.h.

Historical and contemporary developments on the European intellectual scene are covered by experts on individual countries with regard to their relevance for the present American student generation.

The special subject of each semester offering is announced at pre-registration. Open to all students of the university without prerequisites and may be taken up to three times for credit provided that different topics are offered. Taught in English; no knowledge of German required; no prerequisites. Can also be taken for General Studies credit. Two-year cycle.

GER 109: GERMAN LITERATURE IN TRANSLATION

3 s.h.

A study of representative German literary works, with particular emphasis on the characters and ideas which have influenced both German and other literatures. The course is conducted in English; no knowledge of German required; no prerequisites. Can also be taken for General Studies credit. Two-year cycle.

\*GER 150: INTENSIVE ELEMENTARY GERMAN

6 s.h.

Equivalent to GER 151 and 152 offered every fall.

- GER 151:                    GERMAN I (ELEMENTARY I)                    3 s.h.**  
Essentials of grammar with emphasis on aural comprehension and oral expression. Each semester.
- GER 152:                    GERMAN II (ELEMENTARY II)                    3 s.h.**  
Continuation of German 151, with increasing emphasis on graded reading material. Prerequisite: GER 151 or equivalent. Each semester.
- GER 153:                    ELEMENTARY GERMAN CONVERSATION                    3 s.h.**  
Practice in conversational patterns and development of useful proficiency for everyday situations and travel. Designed for those students who have met the prerequisites for German 251 but are lacking in aural-oral proficiency. May be taken concurrently with GER 251. Spring, annually.
- GER 225:                    INTRODUCTION TO GERMAN PHONETICS  
AND PRONUNCIATION                    3 s.h.**  
An introduction to the German phonetic system, including the study of phonemes, intonation, stress and rhythm. Intensive aural/oral training through phonetic dictation with transcription in the International Phonetic Alphabet and practice in diction. Introduction to corrective phonetics. Recommended for majors. Prerequisite: GER 152 or equivalent. Three-year cycle.
- \*GER 250:                    INTENSIVE INTERMEDIATE GERMAN                    6 s.h.**  
Equivalent to GER 251 and 252 offered every spring.
- GER 251:                    GERMAN III (INTERMEDIATE I)                    3 s.h.**  
Brief systematic review of basic grammar; graded readings, conversation, translation, and composition on selected topics. Prerequisite: GER 152 or two years of high school study and/or satisfactory placement. Fall, annually.
- GER 252:                    GERMAN IV (INTERMEDIATE II)                    3 s.h.**  
Intensive reading of selected works; outside reading with oral and/or written reports. Prerequisite: GER 251 or satisfactory placement. Spring, annually.
- GER 253:                    SCIENTIFIC GERMAN                    3 s.h.**  
A study of scientific terminology and style, with extensive readings in various scientific fields. Prerequisite: GER 251 or equivalent. Science and mathematics majors may substitute this course for GER 252. Three-year cycle.
- GER 254:                    COMMERCIAL GERMAN                    3 s.h.**  
A study of commercial terminology and style, with extensive practice in the writing of business letters of various kinds. Prerequisite: Elementary German. Two-year cycle.
- GER 255:                    GERMAN CIVILIZATION I                    3 s.h.**  
A survey of German geography, history, literature, and culture, designed to equip students with the materials and understanding necessary to the presentation of the languages as rich, meaningful, and integral part of a great civilization. Prerequisite: GER 252 or four years of high school study and/or satisfactory placement. Required for German majors. Three-year cycle.
- GER 256:                    GERMAN CIVILIZATION II                    3 s.h.**  
Complement to GER 255. Required for German majors. Three-year cycle.
- GER 260:                    THE GERMAN SHORT STORY                    3 s.h.**  
A study of representative *Novellen* of the nineteenth and twentieth centuries. All readings and discussions in German. Two-year cycle.

GER 265: INTERMEDIATE CONVERSATION 3 s.h.

Practice creative language use in conversation, to develop proficiency for everyday situations and travel at intermediate level. Intensive vocabulary enrichment for students who have completed elementary or intermediate language courses and are lacking in aural-oral proficiency. May be substituted for GER 251 or 252 or used for major credit. Two-year cycle.

GER 351: ADVANCED GERMAN GRAMMAR AND COMPOSITION 3 s.h.

Intensive oral and written drill, with emphasis on finer points of grammar, colloquial, and idiomatic usage. English-to-German translation, free composition, and conversation on everyday topics. Required for German majors. Three-year cycle.

GER 352: SURVEY OF GERMAN LITERATURE THROUGH  
THE CLASSICAL AGE 3 s.h.

Study and discussion of the main trends of German thought and literary expression. Emphasis is placed upon the works of Goethe, Schiller, and Lessing. Three-year cycle.

GER 353: THE MODERN GERMAN DRAMA 3 s.h.

German drama from the middle of the 19th Century to the present, covering representative writers of the Realist, Naturalist, and Expressionist movements, as well as selected contemporary writers. Three-year cycle.

GER 355: GERMAN ROMANTICISM 3 s.h.

The older and younger schools of German Romanticism (Jena, Berlin, and Heidelberg) with emphasis on the revival of folk poetry and consideration of influences upon American Romanticism. Representative authors: Holderlin, Novalis, Arnim, and Brentano. Three-year cycle.

GER 358: CLASSICAL GERMAN LITERATURE: GOETHE,  
SCHILLER AND LESSING 3 s.h.

Goethe's *Faust* and other great works of the Golden Age of German literature. Three-year cycle.

GER 361: GERMAN LYRIC POETRY 3 s.h.

The German lyric from Moerike, Hofmannsthal, Rilke, and George to the post-expressionist movement and contemporary poets such as Benn, Nelly Sachs, and Enzensberger. Three-year cycle.

GER 451: SUPERVISED READINGS IN GERMAN LITERATURE 3 s.h.

This course is devoted to selected readings determined in relation to the needs and interests of the individual major. On demand.

*\*As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may only receive three (3) credits for them, i.e., the three (3) credits they would normally receive for a 152 or 252 course.*

## Health and Physical Education

### Activity and Recreation Courses

The following activity courses are offered for fulfillment of the general education requirement. Courses emphasize the fundamental techniques, strategy, and rules of the activity.

HPE 131: BEGINNING SWIMMING 1 s.h.

For students who cannot swim one length of the pool. The course consists of drown-proofing and elementary back, breast, and freestyle strokes.

HPE 135: AQUA-AEROBICS 1 s.h.

Various aspects of physical fitness are achieved in a water medium.

HPE 141: BADMINTON 1 s.h.

This course will emphasize the fundamental techniques, strategy, and rules of the activity.

HPE 142: BOWLING 1 s.h.

This course will emphasize the fundamental techniques, strategy, and rules of the activity.

HPE 143: GOLF 1 s.h.

This course will emphasize the fundamental techniques, strategy, and rules of the activity.

HPE 144: HANDBALL AND RACQUETBALL (Men's Rules) 1 s.h.

This course will emphasize the fundamental techniques, strategy, and rules of the activity.

HPE 145: RACQUETBALL (Women's Rules) 1 s.h.

This course will emphasize the fundamental techniques, strategy, and rules of the activity.

HPE 147: BEGINNING TENNIS 1 s.h.

This course will emphasize the fundamental techniques, strategy, and rules of the activity.

HPE 148: WRESTLING 1 s.h.

This course will emphasize the fundamental techniques, strategy, and rules of the activity.

HPE 150: CANOEING 1 s.h.

Will explore all the skills of the paddling strokes and involves the nomenclature of modern canoes and equipment. Students will also understand rescue techniques and how to plan a river trip.

HPE 161: BASKETBALL (Men's Rules) 1 s.h.

This course will emphasize the fundamental techniques, strategy, and rules of the activity.

HPE 162: BASKETBALL (Women's Rules) 1 s.h.

This course will emphasize the fundamental techniques, strategy, and rules of the activity.

- HPE 163: VOLLEYBALL (Men's Rules) 1 s.h.**  
This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 164: VOLLEYBALL (Women's Rules) 1 s.h.**  
This course will emphasize the fundamental techniques, strategy, and rules of the activity.
- HPE 171: MODERN DANCE 1 s.h.**  
A study in beginning dance technique, incorporating both barre and centre work. Correct form and body placement along with flexibility and control are covered.
- HPE 173: AEROBIC DANCING I 1 s.h.**  
This course is designed to integrate basic modern dance techniques with scientific principles of aerobic fitness. An enjoyable way to develop cardiovascular endurance.
- HPE 181: ADAPTED PHYSICAL EDUCATION 1 s.h.**  
A modified or corrective physical education course for those who by reason of illness or disability are unable to participate in the more vigorous forms of physical education activities. On demand.
- HPE 182: POSTURE AND BODY MECHANICS 1 s.h.**  
An analysis and application of correct posture and body mechanics through a physical fitness program of exercise and aerobic dance. On demand.
- HPE 185: PHYSICAL FITNESS AND CONDITIONING 1 s.h.**  
This course enables students to develop a fitness and conditioning program to fit their individual needs through knowledge gained in areas such as nutrition, use of conditioning equipment, weight control, and fitness tests. Each semester.
- HPE 186: PHYSICAL FITNESS THROUGH WEIGHT LIFTING 1 s.h.**  
This fitness course covers all basic weight lifting techniques and modern principles for developing and improving an aerobic fitness for both male and female students. Each semester.
- HPE 191: CAMPING AND OUTDOOR RECREATION 2 s.h.**  
This course offers practical experience in the basic skills necessary for a successful camping excursion following conservation practices and techniques that retain the beauty of the wilderness ecosystems.
- HPE 230: SENIOR LIFE SAVING 1 s.h.**  
Prerequisite: Students must demonstrate advance swimming skills. Successful completion of the course leads to the Red Cross Life Saving Certificate.
- HPE 231: INTERMEDIATE SWIMMING 1 s.h.**  
Prerequisite: Students should be able to swim one length of the pool. The course consists of multi-stroke refinement, drown-proofing, and physical conditioning through swimming.
- HPE 233: SPRINGBOARD DIVING 1 s.h.**  
Prerequisite: Students should be competent in the basic swimming strokes and drown-proofing. The course consists of advanced swimming and diving skills, stroke refinement, aquatic games, and recreational skills.
- HPE 247: INTERMEDIATE TENNIS 1 s.h.**  
This course will emphasize the fundamental techniques, strategy, and rules of the activity.

- HPE 273: AEROBIC DANCING II** 1 s.h.  
A continuation of Aerobic Dancing I, with advanced dance routines and techniques. Emphasis on cardiovascular endurance as well as general body conditioning. Prerequisite: Basic knowledge in dance or Aerobic Dancing I.
- HPE 285: INTERMEDIATE FITNESS AND CONDITIONING** 1 s.h.  
Advanced concepts related to personal fitness. Personal fitness is defined as a form of self-motivated, systematic participation in exercise that is geared toward improvement in one's quality of living. This course will meet four days a week for forty minutes for seven and one-half weeks. Spring, annually.
- HPE 330: WATER SAFETY INSTRUCTOR** 1 s.h.  
Prerequisite: Students must hold a valid Red Cross Life Saving Certificate. Successful completion of the course leads to a Red Cross Safety Instructor Certificate.

## Health and First Aid Courses

- HPE 111: HEALTH EDUCATION** 2 s.h.  
Consideration of the physical and mental equipment of the individual and of the practical application of health knowledge and concepts in personal, family, community, and environmental living. Special emphasis is placed in the areas of mental health, drug abuse, human sexuality and marriage, and the major diseases and health problems confronting society. A requirement of all students. Offered each semester through the team teaching concept.
- HPE 314: CARDIOPULMONARY RESUSCITATION** 1 s.h.  
A requirement for the Athletic Coaching Program, the course is designed to follow the recommendation and guidelines of the American Red Cross. Students will receive an American Red Cross CPR Certificate upon successful completion of the course. Each semester.
- HPE 317: FIRST AID AND SAFETY** 2 s.h.  
The responsibilities and duties of the teacher in the development and teaching of programs in first aid and safety that are related to the student's school and community. The American Red Cross Standard First Aid Course will be included. Each semester.
- HPE 333: FITNESS FOR WELLNESS** 3 s.h.  
This course will provide the student with strategies for successful stress management through the medium of exercise. Hands on experience at developing and evaluating one's own exercise program and the common pitfalls of instituting a regimen as well as an examination of the benefits of exercise as related to stress will be the main focus of the course. Prerequisite: HPE 111. Each semester.
- HPE 334: FOOD, FITNESS AND WEIGHT MANAGEMENT** 3 s.h.  
Designed to expose the student to important health concepts in nutrition and weight control to give the student practical strategies for successful weight management. Pitfalls and problematic behaviors of weight management will also be thoroughly covered. On demand.

## Elementary Major Courses

- HPE 223: PHYSICAL EDUCATION FOR ELEMENTARY MAJORS** 1 s.h.  
Required of all students majoring in Elementary Education. Emphasis is placed on modern physical education skills and activities of the elementary child. Each semester.

**HPE 323: MODERN CURRICULUM AND METHODS IN  
ELEMENTARY PHYSICAL EDUCATION** 1 s.h.  
Required of all students majoring in Elementary Education. The course is designed to give the elementary major practical experience in integrating physical activities into academic learning. Each semester.

**HPE 326: ADAPTED PHYSICAL EDUCATION FOR THE  
ELEMENTARY SCHOOL** 3 s.h.  
The study and application of the modified or restricted activities to be provided at all grade levels for the child who may not safely participate in the regular instructional class. Spring, annually.

**HPE 410: PSYCHOMOTOR DEVELOPMENT IN EARLY CHILDHOOD  
RATIONALE AND INTEGRATED ACTIVITIES** 3 s.h.  
This course is designed for Early Childhood majors and elementary education majors, and concentrates on developing a better understanding of the child's physical development sequence. Through this understanding, pre-school experiences are designed that integrate cognitive formation processes with developmental movement activities. Students will have an opportunity to teach an integrated academic and movement lesson with area pre-school and early elementary age children. Prerequisite: The course should be taken in the student's fifth semester and HPE 223. Fall, annually.

## Specialized Courses

### *Athletic Coaching Program*

The program is designed for all students. Non-Education Majors have found the program to be an excellent alternative to their areas of concentration. Any student with an interest in any related future field in fitness, athletics, health, physiology, health clubs and equipment will find the program an additional dimension to their undergraduate major.

The minimum requirements of this program is 19 credit hours, 13 of which are required. The other 6 credit hours may be selected from the Theory and Techniques of Coaching courses: HPE 343, 344, 345, 346, 347, 348, 351, 352, 353, or 354.

**HPE 343-354: THEORY AND TECHNIQUES OF COACHING**  
The purpose of these courses is to acquire knowledge in theories and techniques of coaching specific sports. Main areas covered are rules and regulations, fundamentals, organizational principles, specific conditioning programs, scouting, and technical tactics.

**HPE 343: THEORY AND TECHNIQUE OF COACHING GOLF** 1 cr.  
Fall, even numbered years.

**HPE 344: THEORY AND TECHNIQUE OF COACHING TRACK  
AND FIELD** 1 cr.  
Spring, even numbered years.

**HPE 345: THEORY AND TECHNIQUE OF COACHING SWIMMING** 2 cr.  
Spring, odd numbered years.

**HPE 346: THEORY AND TECHNIQUE OF COACHING  
GYMNASTICS** 2 cr.  
Spring, even numbered years.

**HPE 347: THEORY AND TECHNIQUE OF COACHING TENNIS** 1 cr.  
Fall, even numbered years.



HPE 348:	THEORY AND TECHNIQUE OF COACHING WRESTLING	2 cr.
	Spring, odd numbered years.	
HPE 351:	THEORY AND TECHNIQUE OF COACHING BASKETBALL	2 cr.
	Fall, odd numbered years.	
HPE 352:	THEORY AND TECHNIQUE OF COACHING BASEBALL	2 cr.
	Spring, odd numbered years.	
HPE 353:	THEORY AND TECHNIQUE OF COACHING VOLLEYBALL	2 cr.
	Fall, odd numbered years.	
HPE 354:	THEORY AND TECHNIQUE OF COACHING FOOTBALL	2 cr.
	Fall, even numbered years.	

## Required Coaching Courses

HPE 406:	ATHLETIC INJURIES	3 cr.
	This is a course on care and prevention of athletic injuries. The latest principles and techniques of taping common athletic injuries and new theories on the prevention of athletic injuries are the basics of the course. Fall, annually.	
HPE 407:	PHYSIOLOGICAL FOUNDATIONS OF COACHING	3 cr.
	The primary purpose of this course is the study of basic scientific principles of physiology and how they can be applied to conditioning programs for the athlete. All phases of physical training are covered along with evaluation of modern training devices. Spring, annually.	
HPE 408:	PRINCIPLES AND PROBLEMS OF ATHLETIC COACHING	3 cr.
	A study of modern techniques and practices used in the organizational procedure of athletic programs. Major problem areas such as practice and game organization, purchase and care of equipment, budget and finances, public relations, legal liability, drug abuse, and sports psychology. Modern trends and issues in athletics are analyzed as well as various philosophical views of athletics as a part of the educational curriculum. Fall, annually.	
HPE 409:	KINESIOLOGICAL FOUNDATIONS OF COACHING	3 s.h.
	This course is designed to help the coach increase his or her understanding of basic scientific information concerning athletic movement by utilizing the conceptual approach. The three main areas of study are applied anatomy, the production of motion, and application. The application of scientific principles to athletic skills will aid in the coaching and teaching of skills. Spring, annually.	

## History

HIST 110:	COMPARATIVE HISTORY OF CIVILIZATION IN ASIA	3 s.h.
	This course will explore an overview of all of Asian history from the birth of civilization to the present. The course will emphasize the identification of a number of significant stages of historical development in the life of civilizations. The socio-cultural subdivisions within Asia will be clarified. On demand.	

HIST 111: ANCIENT AND MEDIEVAL CIVILIZATION 3 s.h.

The course includes a survey of prehistoric cultures and civilization from its historical beginning to 1300. Its purpose is to present a knowledge of the origins of the broad social, political, intellectual, and economic movements of the past from which the student may gain an understanding of civilization today. Each semester.

HIST 112: EARLY MODERN CIVILIZATION, 1300 TO 1815 3 s.h.

A study of significant movements and events from 1300 to 1815. The course emphasizes the interrelationships between cultures of various world regions. The influence of European development on other world areas is also stressed. Each semester.

HIST 113: MODERN CIVILIZATION, 1789 TO THE PRESENT 3 s.h.

A study of significant movements and events of 1789 to the present. The course emphasizes interrelationships between the cultures of various world regions, with major attention on the influence European development has exerted on other world areas in the 19th and 20th centuries. Each semester.

HIST 120: UNITED STATES HISTORY TO 1877 3 s.h.

A survey of United States history from the period of exploration through the Reconstruction period. Each semester.

HIST 121: UNITED STATES HISTORY SINCE 1877 3 s.h.

A survey of United States history from Reconstruction to the present. Each semester.

HIST 130: AFRICA TO 1500 3 s.h.

This course will explore the history of Africa and its people from ancient times to the coming of the Europeans. A major emphasis will be on understanding the impact of cultural/ethnic diversity on the development of this history. The problem of creating and maintaining stateless of state societies is a significant locomotive factor of African history. Thus the course themes will examine historical questions concerning the early record, migration, African Kingdoms, trade and economy, impact of Islam and Africa and the Age of Discovery. On demand.

HIST 131: AFRICA SINCE 1500 3 s.h.

This course will explore the history of Africa and its people from the coming of the Europeans to the modern period. A major emphasis will be on understanding the impact of cultural/ethnic diversity on the development concerning Africa and the trans-atlantic slave trade, the impact of Christianity, Afro- American linkages, Colonialism, Independence, and Neo-Colonialism. On demand.

HIST 150: HISTORY IN THE HEADLINES 3 s.h.

Students will develop historical perspective and depth through inquiry and analysis of social, political, economic and technological world events. Through the use of a basic news source such as the *Christian Science Monitor* and use of library resources on special topics, students will increase their global consciousness, their skills in classification and their knowledge about third world and major powers' relationships. Each semester.

HIST 215: TOPICS IN HISTORY 3 s.h.

A topical approach to the study of American history, permitting students to pursue an indepth examination of selected problems. No prerequisite. On demand.

HIST 216: BUSINESS IN THE AMERICAN ECONOMY 3 s.h.

A survey of the historical development of the American economy, emphasizing the role of the private business sector. Fall, alternate years.

**HIST 230: WOMEN IN THE UNITED STATES 3 s.h.**

A survey of American Women's History from colonial times to the present. This course will examine both the history of the female experience in the United States and the relationship between women and the rest of society. Topics will include the power of the domestic sphere; suffragism; female reform; and modern feminism.

**HIST 254: HISTORY OF LATIN AMERICA: COLONIAL PERIOD 3 s.h.**

This course surveys the development of Colonial Latin America from its discovery to 1825. The economic, social, political, and cultural development receives detailed attention. Fall, alternate years.

**HIST 255: HISTORY OF LATIN AMERICA: NATIONAL PERIOD 3 s.h.**

The main emphasis of this course is on the history of the Latin American countries since 1825. The economic, social, political, and cultural development receives detailed attention. Fall, alternate years.

**HIST 256: HISTORY OF PENNSYLVANIA 3 s.h.**

A study of the founding and development of Pennsylvania from its colonial beginning to the present time. Emphasis is place on the social, economic, and political development in the different periods of its history. Special attention is given to the diversity of the people, their institutions and problems, and the growth of Pennsylvania to a leading position in our modern industrial world. Fall, annually.

**HIST 260: FASCISM, HITLER, AND THE HOLOCAUST 3 s.h.**

An examination of the rise of the fascist governments in Europe from 1919 through World War II. Special emphasis is given to the rise of Nazism and the personalities of the Third Reich leadership. The course ends with an examination of the holocaust. Spring, annually.

**HIST 275: INDIA THROUGH THE AGES 3 s.h.**

Examination of the historical development of Indian Civilization from its early origins to the coming of the Europeans, with emphasis on the classical period, religion, social organizations, and the ancient Hindu and Medieval Moslem periods. Spring, alternate years.

**HIST 277: VIETNAM: WAR AND PEACE 3 s.h.**

The course presents an outline of the history of Vietnam from its colonization by the French during the 19th century to the so-called Peace Settlement of 1973 and the new war which followed it. The main focus of the course is from 1945, and the nature of the Vietnamese Revolutionary War is examined. The history of American involvement, their objectives and consequences of the Vietnamese debacle is studied. The course closes with consideration of the global impact of war. Fall, annually.

**HIST 286: HISTORY OF MODERN CHINA AND JAPAN 3 s.h.**

A historical study of the transformation which has taken place in China and Japan in modern times as a result of an external impact as well as forces within far Eastern societies. Fall, alternate years.

**HIST 299: THE HISTORY OF AMERICAN LABOR 3 s.h.**

The course examines the history of American working men and women from the colonial period to the present. It examines not only the growth of the trade union movement and its socio-political and economic impact, but also the nature of the work performed by labor and the way laboring people have lived. On demand.

**HIST 300: THE AMERICAN MILITARY EXPERIENCE 3 s.h.**

A study of the relationships and impact of warfare and military forces in the establishment, expansion, preservation, and development of the United States. Emphasis on understanding the principles of war and their utilization in understanding the political and military decisions that were made in shaping this nation. Spring.

- HIST 315: TOPICS IN NON-WESTERN AND THIRD WORLD HISTORY** 3 s.h.  
A topical approach to the study of non-western and Third World history and culture, permitting students to examine selected problems. On demand.
- HIST 320: MEDIEVAL HISTORY** 3 s.h.  
A survey of European development from 500 to 1300. Alternate Falls.
- HIST 330: EUROPE DURING THE RENAISSANCE AND REFORMATION** 3 s.h.  
This course is a study of the Renaissance and Reformation with particular emphasis on the important political, social, economic, religious, and cultural forces that emerged during this period of transition and ushered in modern Western Culture. Emphasis is placed on the evolution of modern states, the rise of individualism, and the development of modern religious ideas and institutions.
- HIST 345: HISTORY OF EUROPE FROM 1815 TO 1924** 3 s.h.  
A study of the social, economic, political, religious, and cultural experiences of the European people from the Congress of Vienna to the death of Lenin. On demand.
- HIST 350: COLONIAL AMERICA** 3 s.h.  
A study of colonial history beginning with the European background of colonization and continuing through the American Revolution. Prerequisite: HIST 120 or consent of instructor.
- HIST 351: UNITED STATES: THE EARLY REPUBLIC** 3 s.h.  
A study of the Federalist Era, Jeffersonian and Jacksonian America. This course will examine the formation of the republic through the Federal Constitution, the Jeffersonian revolution and the Age of Jackson. The ideas and personalities that shaped the nation will be examined. Prerequisite: HIST 120 or consent of instructor.
- HIST 352: CIVIL WAR AND RECONSTRUCTION** 3 s.h.  
This course is a basic study of the growth of sectional differences between North and South from 1820 to 1850. It further examines the failure of compromise efforts in the 1850's and the causes of secession. The war and the consequences of reconstruction policies to 1877 are traced in light of modern civil rights problems. Fall, alternate years.
- HIST 353: U.S. AGE OF REFORM (1870-1920)** 3 s.h.  
A detailed look at the Gilded Age, Populist, and Progressive Periods in American history. The course will examine the reform phenomena that characterized the late 19th and early 20th centuries. The emphasis will be on the motivation, objectives, accomplishments, and failures of the various reform movements. Each reform group will be considered in the context of a period of rapid social and economic change. Prerequisite: HIST 121 or consent of instructor.
- HIST 354: RECENT AMERICAN HISTORY** 3 s.h.  
A study of the political, social, and economic developments and foreign affairs of the U.S. from World War I to the present. Prerequisite: HIST 121 or consent of instructor. On demand.
- HIST 357: TUDOR-STUART ENGLAND** 3 s.h.  
An examination of the significant political, cultural, social and religious developments in England from the accession of Henry VII to the death of Queen Anne and the transition to the House of Hanover. Spring, alternate years.

**HIST 358: ENGLISH CONSTITUTIONAL HISTORY 3 s.h.**

A consideration of constitutional government in England from the beginning of English history to the present. A study of governmental powers, political and judicial processes, and the relationship of liberty and authority to the individual living under the government is included. Fall, alternate years.

**HIST 359: AMERICAN CONSTITUTIONAL HISTORY 3 s.h.**

This course will examine the history of the Constitution by examining whether a central, institutionalized power can achieve the ideals of liberty, equality, and democracy. These ideals, which have historically defined the American nationality, developed and matured within our legal consciousness as a result of specific historic circumstances: the conflict between liberty and authority, conflict between the individual and the community, and the conflict within class and economy. In examining these various specifics within these circumstances the course will reveal the extent to which Americans have been committed to the ideals themselves. On demand.

**HIST 360: HISTORY OF RELIGION IN THE U.S. 3 s.h.**

A study of American religious history from the colonial period to the present. This course will examine the histories of individual religious institutions and their interaction within their social and intellectual context, focusing upon the paradox of mainstream American Protestantism within a pluralistic religious culture. On demand.

**HIST 361: HISTORY OF AMERICAN SCIENCE AND TECHNOLOGY 3 s.h.**

Students will survey the development of the American technological experience and be able to assess the historical impact of science on U.S. society and politics. Students will discuss cases and issues on: The rise of America as an industrial nation, the role of scientific responsibility and black scientists, U.S. nuclear, environmental and international policies and procedures, and the reshaping of technology today. Spring, alternate years.

**HIST 362: HISTORY OF AFRO-AMERICA 3 s.h.**

A survey of Afro-American history from its African beginnings to contemporary times (1969). Special emphasis is placed on tracing the role of Negroes in American History in order to develop a better perspective on their contribution to the American way of life. A close study will be made of the junctures in American History where the problems of the Afro-American took on new meaning for American growth. Spring, alternate years.

**HIST 366: RUSSIA SINCE 1815 3 s.h.**

An examination of Russia's development during the 19th and 20th centuries. The first part of the course will focus on Russia and its people under the Czar and the drift to Revolution. The second part of the course will focus on Soviet society and Communism in theory and practice.

**HIST 368: CHINA SINCE 1949 3 s.h.**

An examination of the Chinese revolutionary struggle under Mao Tse-Tung and the Communist programs of socioeconomic construction through ideology and organization. Special emphasis is given to internal restructuring and international relations. On demand.

**HIST 370: HISTORY OF THE MIDDLE EAST 3 s.h.**

This survey is an area of study of the early classical era by way of an advanced intensive exploration of the civilization in the Mediterranean East and Middle East. After an introduction to the religion of Judaism and Christianity in their political setting, the cultural contributions of the Semites, Greeks, and Romans are examined. The Islamic Age is stressed. Emphasis is placed upon modern identification of the countries that make this an explosive part of the world — Jordan, Israel, Lebanon, Iran, Iraq, Arabia, Syria, Egypt. Their relationship to the great powers is given attention. On demand.

- HIST 380: FRANCE 1559-1815** 3 s.h.  
An examination of French History from the death of Henry II to the second exile of Napoleon.
- HIST 385: SOUTHEAST ASIA SINCE 1945** 3 s.h.  
Different systems of World colonial rule, with major emphasis on territorial expression, political administration, and economic patterns; reaction to alien rule, rise of nationalism, and social, economic, and political problems since independence. On demand.
- HIST 398: QUANTITATIVE METHODS FOR HISTORIANS** 3 s.h.  
The application of statistical techniques to historical research. Students will briefly review basic statistical techniques, investigate, in depth, the application of statistical manipulation to historical data, and explore current historical research employing these methods. The course will also introduce students to computer applications of statistics through a social science software package in a hands-on lab. The focus will be upon the capabilities, appropriateness, and limitations of quantitative methods within the historical discipline. Prerequisite: PSY 230 or ECON 221 or MATH 221 or MATH 230 or equivalent.
- HIST 410: HISTORIOGRAPHY** 3 s.h.  
An introduction to Historical method and theory. This course will explore a variety of interpretive theories and specialized approaches employed by contemporary historians to traditional and non-traditional problems. The emphasis will be upon development of the student's critical abilities. Permission of instructor required.
- HIST 420: RESEARCH SEMINAR** 3 s.h.  
An introduction to research methods and historical sources in history, providing students with an opportunity to develop and complete a significant research project. The seminar will focus upon the American, European, or non-Western civilization, depending upon the instructor. Permission of instructor required.
- HIST 452: THE AMERICAN APPROACH TO FOREIGN POLICY** 3 s.h.  
Students will examine 19th and 20 century patterns of realism and idealism in U.S. diplomacy through consideration of the national interest, manifest destiny, imperialism and global power. Students will be expected to analyze and discuss documents and scholarly thought on major diplomatic problems such as the Monroe Doctrine, The Open Door Policy, World War I, World War II, The Cold War, and the configurations of current world powers.

## Honors

- HON/ENG/ SCT 125: MODES OF DISCOURSE** 6 s.h.  
An interdisciplinary course which aims to integrate the student's production of both written and spoken discourse. The course has an alternative method of teaching communication, and draws upon the skills of instructors from English and Speech Communication and Theatre. Taken by freshmen enrolled in the Honors Program, this course replaces both ENG 111 and SCT 113. (Not open to students who have taken ENG 111 or SCT 113.)
- HON 130: SPECIAL TOPICS: HUMANITIES** 3 s.h.  
An interdisciplinary course in the humanities required of students enrolled in the Honors Program. The course focuses on human values, beliefs, and accomplishments as expressed in art, music, literature, philosophy, and religion.

- HON 230:** SPECIAL TOPICS: SCIENCE/MATHEMATICS 3 s.h.  
An interdisciplinary course in the natural sciences and/or mathematics required of students in the Honors Program. The course content focuses on basic principles in the natural sciences and/or mathematics and their development within the context of human civilization.
- HON 240:** SPECIAL TOPICS: SOCIAL SCIENCES 3 s.h.  
An interdisciplinary course in the social sciences required of students enrolled in the Honors Program. The course content focuses on human civilization from the perspective of the social scientist.
- HON 330:** SPECIAL TOPICS 1-3 s.h.  
Focuses on a topic of interest to honors students.
- HON 350:** JUNIOR SEMINAR 3 s.h.  
An interdisciplinary seminar synthesizing knowledge and skills acquired in lower division courses through a unifying theme. The theme will be broad enough to offer a variety of dimensions for study and research. This course or study abroad required of students enrolled in the Honors Program.
- HON 430:** SPECIAL TOPICS 1-3 s.h.  
Focuses on a topic of interest to honors students.
- HON 450:** SENIOR PAPER/PROJECT 3-6 s.h.  
A scholarly project of an interdisciplinary nature including the student's major area of study. A public presentation of the outcome of the project is required. Required of students enrolled in the Honors Program.

## Humanities

- HUM 120:** HUMANITIES I: ANTIQUITY THROUGH THE MIDDLE AGES 3 s.h.  
This interdisciplinary course in the humanities focuses on western values, beliefs, and accomplishments as reflected in the arts, and historical development from the Classical period to the close of the Middle Ages. Non-refundable activity fee of \$11.50. No prerequisite. On demand.
- HUM 121:** HUMANITIES II: THE RENAISSANCE TO THE PRESENT 3 s.h.  
A continuation of the study of western culture from the Renaissance to the present. Non-refundable activity fee of \$38.00. No prerequisite. On demand.

## Library Science

- LS 255:** INTRODUCTION TO MEDIA LIBRARIANSHIP 3 s.h.  
Broad overview of libraries and library media centers and the profession of librarianship beginning with the history of libraries and concluding with the impact of technology on libraries. Fall, annually.
- LS 257:** BASIC INFORMATION SOURCES AND SERVICES 3 s.h.  
Emphasis on the approaches to locating information. The criteria for selection of reference materials and the examination of reviewing media for new reference aids. Organization of reference service. The study of a selected list of reference works. Spring, annually.

- LS 258: SELECTION OF LIBRARY MEDIA 3 s.h.**  
Familiarity with basic bibliographical tools, including current reviewing media and the book trade. The establishment of policies and criteria for the selection of and evaluation of book and non-book materials. Prerequisite to LS 356 and LS 358. Spring, annually.
- LS 260: DEVELOPMENT AND ADMINISTRATION OF LIBRARIES 3 s.h.**  
The development of the library as an institution. The concept of philosophy of librarianship. General principles of administration and their application to the organization and management of different types of libraries. Problems and practices with respect to a library's function, staff, collections, and building. Fall, odd numbered years.
- LS 356: MEDIA FOR ADOLESCENTS 3 s.h.**  
Survey of adolescent literature and other media. Study of the reading interests of high school age students and characteristics of adolescent literature and methods of introducing young adults to books. Techniques of preparing and delivering book talks and developing young adult programs. Prerequisite: LS 258 or permission of the instructor. Fall, annually.
- LS 357: ORGANIZATION OF MEDIA 3 s.h.**  
Organization of print and non-print materials for effective service. Principles and methods of descriptive cataloging. The structure and application of the Dewey Decimal Classification, the Library of Congress Classification, and standard subject authority lists. The use of printed cards and the utilization of other work simplification techniques. The study of filing rules. Maintenance of library catalogs — shelf lists, divided and dictionary card catalogs, and the printed book catalog. Fall, annually.
- LS 358: MEDIA FOR CHILDREN 3 s.h.**  
Survey of children's literature and related materials. A study of the principles of selection and evaluation of books, periodicals, and other materials for children. Reading guidance, with attention to materials for special groups. Development of general and subject bibliographies, preparation of annotations. Techniques of story-telling and the selection of materials for the story hour. Prerequisite: LS 258 or permission of the instructor. Spring, annually.
- LS 360: ADMINISTRATION OF SCHOOL MEDIA CENTERS 3 s.h.**  
Study of the objectives and functions of the modern school library media center. Techniques and administrative procedures, budget preparation, personnel space, and equipment. Acquisition, preparation, and the circulation of all forms of media. Maintenance of the collection. Standards for evaluation of school library media centers. Relations with other school libraries and the public library. The development of a functional school library media program. Fall, annually.
- LS 362: SELECTION, UTILIZATION, AND PRODUCTION OF LEARNING RESOURCES 3 s.h.**  
An introduction to user survey techniques, selection, and utilization of a wide variety of learning resources (including the design and preparation of materials and the operation of equipment). No prerequisite.
- LS 365: SPECIAL TOPICS IN LIBRIANSHIP 3 s.h.**  
In-depth discussion, study, and research of a selected topic related to the role of the library in responding to social issues, service to special groups, or problem areas, such as Media and Minorities, OCLC On-Line Bibliographic Control and Media Programs for the Gifted. (Not creditable toward library science certification.) On demand.



LS 385: AUTOMATION AND THE SCHOOL LIBRARY MEDIA CENTER 3 s.h.

Introduction to the utilization of automation in the school library media center including the selection and utilization of computer hardware and software for instructional purposes as well as for school library media center services and management, ex. acquisitions, serials, cataloging. Prerequisite: CIS 217 or by permission of instructor. Spring annually.

LS 432: COLLOQUIUM no credit

A series of lectures, discussions, and film demonstrations presented by visiting lecturers and members of the staff. Required of all library science students. Each semester.

LS 455: SPECIAL TOPICS IN LIBRARIANSHIP 3 s.h.

In-depth discussion, study, and research of a selected topic related to the role of the library in responding to social issues, service to special groups, or problem areas, such as Media and Minorities, OCLC On-Line Bibliographic Control and Media Programs for the Gifted. (Not creditable toward library science certification.) On demand.

LS 457: INDEPENDENT STUDY/SEMINAR 1-3 s.h.

Opportunity to explore in depth a facet of librarianship according to need or interest, under the direction of a faculty member of the college. Special area to be approved by a faculty committee. Development of research techniques. The preparation of a scholarly paper or completion of a special project.

LS 459: MEDIA, METHODS, AND THE CURRICULUM 3 s.h.

Planning for the effective use of school library media services in cooperation with the instructional staff. Examination of school library media philosophies and educational objectives. Development of a library media program. Examines the librarian's role in designing curriculum, in developing teaching-learning strategies, and in working with teachers, students and administrators. Prerequisites: LS 257, 258, either 356 or 360, 490, and COMM 405. Spring, annually.

LS 490: LIBRARY MATERIALS AND SERVICES FOR EXCEPTIONAL LEARNERS 3 s.h.

An opportunity for students to explore the nature and needs of special groups of library users in order to develop collections of materials and to design programs of services to accommodate those needs. Special needs in all types of library settings—academic, public, school, and special—are examined in particular, the unique characteristics and instructional needs of exceptional learners who use the school library are explored. Bibliotherapy and other techniques are investigated to determine their validity for the exceptional learner. Fall, annually.

LS 491: BUSINESS REFERENCE SOURCES AND SERVICES 3 s.h.

Survey of the literature and services which would be expected in a business library or department of business information. Includes in-depth examination of major business reference tools, as well as in-depth examination of the special operations, organization, and management of business libraries and departments of business information.

## Management

MGMT 120: INTRODUCTION TO BUSINESS 3 s.h.

An introductory course which emphasizes the philosophical and historical background of business institutions, the functional relationship within the business firms, and relates the firm to the overall framework of society. Freshmen only. Recommended for business students who have not selected a specific major. BSBA majors can apply this course to free electives only. Each semester.

**MGMT 121: FUNDAMENTALS OF MANAGEMENT 3 s.h.**

This course is an introduction to management and organization. The emphasis is placed on managerial processes and functions and the interface of the manager with supervisors, subordinates, and the work environment. BSBA majors can apply this course to free electives only. Each semester only at Venango Campus.

**MGMT 227: APPLIED SUPERVISION 3 s.h.**

This course is designed to prepare the student for a position as a first-time supervisor and includes the essential elements of good management practices, and stresses application rather than theoretical supervision concepts. BSBA majors can apply this course to free electives only. Prerequisite: Sophomore standing and MGMT 120. Spring, annually only at Venango Campus.

**MGMT/PSY 228: HUMAN BEHAVIOR IN ORGANIZATIONS 3 s.h.**

A survey of the application of psychological theory, techniques, and research to organizations. The psychological principles of selection, training, attitudes, motivation, job satisfaction, job evaluation, and performance are analyzed. BSBA majors can apply this course to free electives only. No prerequisite. Fall, annually, only at Venango Campus.

**MGMT 320: MANAGEMENT THEORY AND PRACTICE 3 s.h.**

This course focuses on the development of management thought and its application. Topics covered include planning, organizing, controlling, decision-making, motivation, leadership, work groups, and organizational change and development. Special areas to be considered are the domestic and international environments and changing societal values. Prerequisite: ECON 211, ECON 212, and junior standing. Each semester.

**MGMT 321: ORGANIZATION THEORY AND BEHAVIOR 3 s.h.**

This course focuses on the managerial application of behavioral science research and theory in dealing with individuals, groups, and organizations. Prerequisite: MGMT 320. Each semester.

**MGMT 322: SELECTION AND MANAGEMENT OF BUSINESS INFORMATION SYSTEMS 3 s.h.**

This course shows managers how to develop business management information systems, either on their own or with the aid of system technicians. It stimulates the systems techniques in organizing and analysis which the student will use in practice. Prerequisite: MGMT 320. Each semester.

**MGMT 323: PROBLEMS IN SMALL BUSINESS 3 s.h.**

The study of the problems of initiating and operating a small business. Emphasis is on the use of existing data and sources of information available to the small businessman as well as formal knowledge of course work. Prerequisite: MGMT 320. Fall, annually.

**MGMT 324: PERSONNEL MANAGEMENT 3 s.h.**

A study of the activities involved in human resource management. Topic areas include the following: job analysis, human resource planning, recruitment, selection, equal employment opportunity, training and development, performance appraisal, compensation practices, and safety and health. A system approach is stressed. Prerequisite: MGMT 320. Each semester.

**MGMT 420: OPERATIONS RESEARCH I 3 s.h.**

Scientific methods which provide executive departments with a quantitative basis for making decisions. Emphasis is placed on deterministic methods such as the transportation problem, linear programming, dynamic programming and PERT. Prerequisite: ECON 221. Fall, annually.

**MGMT 421: OPERATIONS RESEARCH II 3 s.h.**

Scientific methods which provide executive departments with a quantitative basis for making decisions. Emphasis is placed on stochastic processes such as inventory control, queuing theory and markov chains. These processes are examined in a computer simulation environment. Prerequisite: ECON 222. Spring, annually.

**MGMT 425: PRODUCTION MANAGEMENT 3 s.h.**

Philosophy of F. W. Taylor and other management pioneers. Nature of the production cycle. Simplification and diversification of product lines, purchasing, materials, control, routing, scheduling, dispatching, plant layout. Prerequisite: ECON 221, ECON 222, and MGMT 320. Each semester.

**MGMT 426: INTERNATIONAL BUSINESS 3 s.h.**

This is an introductory course designed to acquaint the student with the international environment and the growing discipline of multinational business in this environment — i.e., multinational management of: strategic planning, organization, production, research and development, marketing, finance, and human resources. Prerequisite: MGMT 320. Each semester

**MGMT 427: SMALL BUSINESS SEMINAR 3 s.h.**

The course is designed for a "hands on" approach to small business, manufacturing, wholesaling, or retailing. The student will have an opportunity to perform a managerial audit of an existing small business, do the necessary work preliminary to the purchase of a small business, or start a new small business. The course will enable the student to put into practice the knowledge obtained in MGMT 323, which is a prerequisite, and to explore further sources of research data. Spring, annually.

**MGMT 445: MANAGEMENT SEMINAR 3 s.h.**

Designed for management majors as a follow-up course to MGM5 320. The course presents the views of numerous management theorists and practitioners. It includes broad ranging areas of study and an integration of these areas through discussion, individual written and oral reports, and some case analyses. The student has the opportunity to analyze and integrate theory and practice as a means of increasing his or her understanding of the management process. Prerequisite: MGMT 320 and senior standing. Spring, annually.

**MGMT 482: COLLECTIVE BARGAINING 3 s.h.**

A study of the negotiation and scope of collective bargaining contracts; the substance of bargaining power and institutional goals are applied in the resolution of industrial conflict. Prerequisite: MGMT 324. Spring, annually.

**MGMT 483: WAGE AND SALARY ADMINISTRATION 3 s.h.**

A study of the formation and administration of compensation systems as they relate to the changing nature of employee rewards and expectations. Emphasis will be given to job and performance evaluation, fringe benefits, and rewards for special groups. Prerequisites: MGMT 324. Spring, annually.

**MGMT 485: INDUSTRIAL RELATIONS AND PUBLIC POLICY 3 s.h.**

An examination of the industrial relations functions as they relate to federal, state, and local statutes and industrial policies. Specific topics covered include OSHA, EEOA, NLRA, LMRA, and LMRDA. Prerequisite: MGMT 324. Fall, annually.

**MGMT 499: SPECIAL TOPICS IN MANAGEMENT 3 or 6 credits**

Various current topics affecting management practice or theory will be presented. Different topics may be covered from year to year as subjects of critical importance or interest occur. Prerequisite: Junior standing and MGMT 320.

## Marketing

**MKTG 360: PRINCIPLES OF MARKETING 3 s.h.**

The topics included are the role of the consumer motivation; selling and buying functions; physical distribution management; and government regulation and control in marketing. The purpose of the course is for the student to develop an understanding of the increasing complexity of the modern marketing system, why it is essential, and how it performs in both domestic and international marketing situations. Prerequisites: ECON 211, 212, and junior standing. Each semester.

**MKTG 361: MARKETING MANAGEMENT 3 s.h.**

A study of coordinative effort in planning, organizing, and controlling marketing activities that direct the flow of goods and services from producer to consumer. Prerequisite: MKTG 360. Each semester.

**MKTG 362: RETAILING MANAGEMENT 3 s.h.**

Retailing management is designed to introduce students to the field of retailing where they will study such areas as organizational structure, merchandising practices and procedures, promotional activities, store planning, control, etc. Prerequisite: MKTG 360, or instructor approval. Each semester.

**MKTG 363: ADVERTISING MANAGEMENT 3 s.h.**

The uses of advertising and advertising campaigns by business which give emphasis to the patterns and types of marketing strategy and its various functions, legal and moral obligations, problems in developing and evaluating advertising programs, budgeting, scheduling, and client-advertising agency relationship. Prerequisite: MKTG 360. Each semester.

**MKTG 364: PRINCIPLES OF SELLING 3 s.h.**

Introduction to the principles of selling. Concerned with influencing, persuading, or leading individuals to buy goods and/or services. Useful for anyone considering a career in sales management. Prerequisite: Permission of the instructor. Fall, annually.

**MKTG 365: INDUSTRIAL MARKETING 3 s.h.**

An examination of the characteristics of the industrial market; principles and practices in purchasing raw materials, supplies, and equipment; methods of selling; channels of distribution; promotional activities; and sales organization and policies. Prerequisite: MKTG 360. Each semester.

**MKTG 366: PHYSICAL DISTRIBUTION MANAGEMENT 3 s.h.**

Concerned with factors involved in the selection of marketing channels and problems involved in managing the task efficiently. Prerequisite: MKTG 360. Fall, annually.

**MKTG 367: INDUSTRIAL BUYING 3 s.h.**

Exposure to buying theory and practice. Special emphasis is given to decision making and quantitative methods. Prerequisite: MKTG 360. Spring, annually.

**MKTG 390: MARKETING FOR NONPROFIT ORGANIZATIONS 3 s.h.**

This course provides an analysis of marketing management practices in the public and non-profit sectors. The course offers a framework for evaluating non-profit marketing issues. Particular attention will be placed on the role of marketing in helping non-profit organizations improve their effectiveness in achieving objectives and in maintaining or increasing financial viability. Prerequisite: MKTG 360. Annually.

**MKTG 460: SALES MANAGEMENT 3 s.h.**

Designed to cover all aspects concerned with the management of a sales force including the selection and testing of sales representatives, training, devising compensation plans and expense accounts, territories, quotas, and evaluations. Case studies and problem solving techniques are utilized. Prerequisite: MKTG 360. Annually.

## 3 s.h.

3 s.h.

3 s.h.

3 s.h.

3 s.h.

Various current topics which affect marketing practice or theory will be presented. Different topics will be covered from year to year as subjects of critical importance arise. Prerequisite: MKTG 360 or permission of the instructor.

The usual entry level for students in the natural sciences and mathematics and for other students with good mathematics ability and background, regardless of their major, is MATH 270, but science and math majors with insufficient background may select MATH 171. Business students normally enter at MATH 131, Elementary Education majors at MATH 111. MATH 112 is the usual course for students with no mathematics requirements outside general education, but MATH 221 and MATH 230 are good alternatives and other electives are also available. For more detail, students should contact their advisors or the chair of the Mathematics Department.

## 3 s.h.

An introduction to basic algebraic concepts, review of algebraic and mathematical manipulation, emphasis on individual attention. (No student who has satisfactorily completed another mathematics course may subsequently receive credit toward graduation for MATH 100.) No grade is awarded for this course, only Credit-No Record. Each semester, each summer.

## 3 s.h.

Topics in algebra beyond the introductory level yet less than the precalculus level. Prerequisite: Adequate performance on the departmental placement examination or successful completion of MATH 100.

## 3 s.h.

Structure of the real number system. Elementary set theory. Open only to elementary majors in the College of Education, others only with permission of the department. Each semester.

## 3 s.h.

A course designed to acquaint the student with the nature and scope of modern mathematics and its applications. Emphasis is on concepts and understanding rather than the acquisition of techniques. The course is intended for majors in the arts, humanities, and social sciences. Each semester.

**MATH 131: MATHEMATICS FOR BUSINESS AND ECONOMICS 3 s.h.**

Mathematical techniques with special applications in business and related areas. Topics include matrices, linear programming, mathematics of finance, probability, and statistics. Prerequisite: MATH 110 or its equivalent. Each semester.

**MATH 171: PRECALCULUS 4 s.h.**

Review of high school algebra, functions inequalities, analytic trigonometry, logarithms, elementary theory of equations, complex numbers, and mathematical induction. Prerequisite: 2 years of high school algebra. Each semester.

**MATH 211: MODERN CONCEPTS OF MATHEMATICS FOR ELEMENTARY TEACHERS 3 s.h.**

Investigation of selected topics considered essential to the mathematical background of an elementary education major. Included are introductions to mathematical reasoning and problem solving techniques, probability and statistics, geometry, and computer programming. Prerequisite: MATH 111. Annually.

**MATH 212: INTUITIVE GEOMETRY 3 s.h.**

An intuitive overview of geometry; axiomatic structure of geometry, basic constructions, proofs. Not open to mathematics majors. Prerequisite: Any 100 level MATH course. On demand.

**MATH 213: INTUITIVE ANALYSIS 3 s.h.**

An elementary introduction to the basic properties of the real number system and the calculus, including functions, sequences, limits, continuity, integrals, and derivatives. Not open to mathematics majors. Prerequisite: Any 100-level mathematics course. On demand.

**MATH 214: FINITE MATHEMATICS 3 s.h.**

An introduction to the basic properties of finite mathematics, including partitions of sets, counting theorems, permutations, combinations, probability. Suggested for students in elementary education. On demand.

**MATH 215: MATHEMATICAL CONCEPT LABORATORY—AN ACTIVITY-ORIENTED APPROACH 3 s.h.**

Development of certain concepts of mathematics using an activity-oriented approach. Class is conducted in a laboratory atmosphere. Topics considered are the rational number system, number theory, induction, measurement, geometric shapes. On demand.

**MATH 221: STATISTICS WITH APPLICATIONS 3 s.h.**

Basic principles and methods of statistical analysis useful in the social sciences, biology, and education. Designed specifically for students not majoring in mathematics. Prerequisite: two years of high school algebra or a college mathematics course. Each semester.

**MATH 230: NONPARAMETRIC STATISTICS 3 s.h.**

The course will examine statistical methods for experiments that yield small samples and/or ordinal, methods for dealing with data from unknown or intractable distributions, and the bases for a well-designed experiment. Prerequisite: 2 years of high school algebra or a college mathematics course.

**MATH 232: CALCULUS FOR BUSINESS I\* 3 s.h.**

Differential calculus with application to business and the social sciences. Topics include limits, derivatives, maxima and minima, and introduction to integration related topics. Prerequisite: MATH 110 or the equivalent. Each semester.

**MATH 233: CALCULUS FOR BUSINESS II\* 3 s.h.**

Application of integral calculus to business and the social sciences. Topics include rules of integration, definite and indefinite integrals, series and partial derivatives. Prerequisite: MATH 232 or the equivalent. Each semester.

*\*MATH 232-3 are designed for students outside the natural sciences. Students in Math and Sciences and better prepared students in other disciplines are encouraged to select MATH 270- 271 instead.*

**MATH 255: SURVEYING 3 s.h.**

Use of the transit, angle mirror, bysometer, sextant, and other measuring instruments; simple map-making exercises and elementary surveying; construction—and use of student-made instruments and teaching devices. Prerequisites: MATH 171. Summers, and on demand.

**MATH 270: CALCULUS WITH ANALYTIC GEOMETRY I 4 s.h.**

Elementary analytic geometry, limits, continuity, differentiability. Prerequisite: MATH 171 or its equivalent. Each semester.

**MATH 271: CALCULUS WITH ANALYTIC GEOMETRY II 4 s.h.**

Review of limits, definition of the Reimann integral and applications. Integration techniques; topics in analytic geometry. Prerequisite: MATH 270. Each semester.

**MATH 272: CALCULUS WITH ANALYTIC GEOMETRY III 4 s.h.**

Basic properties of limits, continuous and differentiable functions. Sequences, series, solid analytic geometry, functions of several variables, multiple integrals. Prerequisite: MATH 271. Each semester.

**MATH 300: AN INTRODUCTION TO ADVANCED MATHEMATICS 3 s.h.**

This course takes a rigorous approach to the study of the standard methods of mathematical proof applied to the areas of set theory, relations, functions, and cardinality. Prerequisite: MATH 271.

**MATH 321: INTRODUCTORY MATHEMATICAL STATISTICS 3 s.h.**

The course is designed to provide an overview of the basic theory and application of mathematical statistics. Emphasis is placed on understanding and applying basic statistical theory. Prerequisite: MATH 271.

**MATH/CIS 340: DISCRETE MATHEMATICAL STRUCTURES 3 s.h.**

An introduction to sets, relations, functions, combinations, graphs and trees emphasizing concrete models. Includes computer algorithms and mathematical structures useful in Computer Science. Designed for students in both Mathematics and Computer Science. Prerequisite: MATH 271 and CIS 151 or CIS 163. Each semester.

**MATH 350: ORDINARY DIFFERENTIAL EQUATIONS 3 s.h.**

First order differential equations. Linear differential equations of higher order; systems of differential equations. Series methods. Prerequisite: MATH 272. Annually.

**MATH 357: MODERN GEOMETRY 3 s.h.**

Axiomatic treatment of topics in geometry. Prerequisite: MATH 300.

**MATH 360, 460: NUMERICAL METHODS IN MATHEMATICS I, II 3 s.h. each**

Types of error, calculus of finite differences, numerical evaluation of integrals, algorithms for the solution of algebraic equations, and systems of algebraic equations with applications to selected problems and computer programming of algorithms. Prerequisite: MATH 271. Each spring semester (360); alternate fall semesters (460).

**MATH 369: BOOLEAN ALGEBRA 3 s.h.**

An introduction to the theory of Boolean Algebra, with applications to the theory of sets, logic, and electromechanisms. Prerequisite: MATH 272 or permission of instructor.

- MATH 370: INTRODUCTION TO LINEAR ALGEBRA** 3 s.h.  
Introduction to vector spaces, linear transformations, matrices, determinants, and related topics. Prerequisite: MATH 300. Each semester.
- MATH 451, 452: MODERN ALGEBRA I, II** 3 s.h. each  
An introduction to groups, rings, integral domains and fields. Prerequisite: MATH 300. Fall and spring respectively.
- MATH 454: THEORY OF NUMBERS** 3 s.h.  
Factorization, congruence, quadratic reciprocity. Number theoretic functions, diophantine equations, continued fractions. Prerequisite: MATH 300.
- MATH 455: PROBABILITY** 3 s.h.  
Basic concepts of elementary probability; probability in finite spaces; conditional probability; independent trials; sophisticated counting; probability in relation to random variables. Prerequisite: MATH 272 and 300.
- MATH 456: MATHEMATICAL STATISTICS** 3 s.h.  
Mathematical expectation; discrete and continuous random variables; probability densities; sampling distributions; point estimations; interval estimations; tests of hypotheses; regression and correlation; analysis of variation; moment-generating functions. Prerequisites: MATH 455.
- MATH 459: INTRODUCTION TO COMPLEX VARIABLES** 3 s.h.  
An introduction to complex numbers, analytic functions, poles, residues, and their applications, including the fundamental theorem of algebra. Prerequisite: MATH 272 and 300.
- MATH 471, 472: INTRODUCTION TO REAL ANALYSIS** 3 s.h.  
Limits, continuity, differentiability, integrability, and convergence for functions of a real variable and several variables. Prerequisite: MATH 272 and 300.
- MATH 473: ELEMENTARY TOPOLOGY** 3 s.h.  
Topological spaces, metric spaces, compactness, connectedness. Prerequisite: MATH 272 and 300.
- MATH 480: TOPICS** 3 s.h.  
This course offers special topics reflecting the interests of the students. The specific topic to be covered each term will be announced in advance. Prerequisite: MATH 272 and permission of the instructor.
- MATH 490, 491, 492: SEMINAR I, II, III** 1 s.h. each  
Seminar in mathematics. An oral and written presentation is required.
- MATH 499: INDEPENDENT STUDY** 1-3 s.h.  
Individual study under faculty supervision. Prerequisite: 12 hours of MATH numbered 300 or above and written consent of the department chair.

## Medical Technology Professional Study Year

- MT 401: CLINICAL MICROBIOLOGY** 6-9 s.h.  
Identification and clinical pathology of bacteria, fungi, viruses and parasites. Techniques to isolate, stain, culture and determine antimicrobial susceptibility. Instrumentation; quality control.



- MT 402: CLINICAL CHEMISTRY** 6-9 s.h.  
Enzymology, endocrinology, biochemistry of lipids, carbohydrates and proteins, metabolism of nitrogenous end products, physiology and metabolism of fluids and electrolytes, and toxicology as related to the body and diseases. The technical procedures include colorimetry, spectrophotometry, electrophoresis, chromatography, automation and quality control.
- MT 403: CLINICAL HEMATOLOGY/COAGULATION** 3-6 s.h.  
The composition and functions of blood; diseases related to blood disorders; the role of platelets and coagulation. Manual and automated techniques of diagnostic tests for abnormalities.
- MT 404: CLINICAL IMMUNOHEMATOLOGY** 4-6 s.h.  
Blood antigens, antibodies, crossmatching, hemolytic diseases, and related diagnostic tests. An in-depth study of blood donor service and its many facets such as transfusions, medico-legal aspects, etc.
- MT 405: CLINICAL IMMUNOLOGY/SEROLOGY** 2-4 s.h.  
Immune response, immunoglobulins, autoimmunity and complement, and related tests and diseases. Survey and demonstration of serological diagnostic tests.
- MT 406: CLINICAL SEMINAR** 0-4 s.h.  
Other courses which are not included in the above (such as orientation, laboratory management, education, clinical microscopy) are unique to the individual hospital program.

## **Military Science**

- MS 101: WORLD MILITARY HISTORY: THE GREAT CAPTAINS** 2 s.h.  
A study of the relationship and impact of warfare and military forces on the social, economic, and technological development of the world as well as a study of strategy, tactics and personalities involved in major conflicts. Also, see leadership laboratory. Each semester.
- MS 102: AMERICAN MILITARY HISTORY** 2 s.h.  
A study of the evolution of American military institutions and policies from colonial troops to present. Emphasis is on the relationship between the military and other aspects of American society and the role of the military in the establishment, expansion, preservation, and development of the nation. Also, see leadership laboratory. Spring, annually.
- MS 101-102: LEADERSHIP LABORATORY**  
A practical experience designed for the attainment of leadership principles. Concurrently scheduled with MS 101 and 102, it provides for practical challenges in personal accomplishments, both physical and mental, and for development of team work and leadership. It includes rappelling, tactics, water safety, military drill and ceremonies, land navigation, first aid, and rope bridging.
- MS 203: FUNDAMENTALS OF TOPOGRAPHIC MAP INTERPRETATION** 2 s.h.  
A study of topographic maps leads to understanding the grid coordinate scale and being able to analyze terrain. The course also includes a study of leadership principles applicable to most career fields. Cadets learn to set goals and transforms them into action. Fall, annually.
- MS 204: NATIONAL SECURITY AND CONCEPT OF FORCE** 2 s.h.  
Study of national security concepts, policies and the national decision-making process with emphasis on current policies and events. Spring, annually.

**MS 203-204: LEADERSHIP LABORATORY**

A practical experience designed for the cadet to learn practical military skills while beginning to practice the leadership of other cadets. It includes military drill and ceremonies, physical conditioning, water safety, rappelling, rope bridging, tactics, and first-aid.

**MS 305: FUNDAMENTALS OF ORGANIZATION LEADERSHIP AND MODERN LEARNING/TEACHING RELATIONSHIP 3 s.h.**

Study in practical application of principles of Leadership/Management as applied in classroom and field to include case studies in psychological, physiological, and sociological factors which affect human behavior; individual and group solution of leadership problems common to organizations and small military units. Fall, annually.

**MS 306: STUDY OF ADVANCED LEADERSHIP AND THE PLANNING AND EXECUTION OF MODERN TACTICAL OPERATIONS 3 s.h.**

Analysis of leader's role in directing and coordinating efforts of individuals and small units in execution of offensive and defensive tactical missions, to include command and control systems, the military team, and communications techniques. Spring, annually.

**MS 305-306: LEADERSHIP LABORATORY**

A practical experience designed for the attainment and application of leadership principles. Concurrently scheduled in conjunction with MS 305 and 306. It provides for practical challenges in personal accomplishments, both physical and mental, and for the development of team work and leadership.

**MS 407: MANAGEMENT OF THE MILITARY COMPLEX TO INCLUDE FUNDAMENTALS OF MILITARY AND INTERNATIONAL LAW 3 s.h.**

Study of the various managerial elements needed to effectively control a military organization and the techniques used to accomplish these functions. Studies in military law and international law prepare the students for their legal responsibilities. Includes obligation and responsibilities of an officer. Fall, annually.

**MS 408: SEMINAR IN ANALYSIS AND MANAGEMENT 3 s.h.**

Selected management problems and situations will be presented as they relate to organizations and the military. Spring, annually.

## **Music**

**MUS 111: INTRODUCTION TO MUSIC 3 s.h.**

An introductory course designed to provide a basic orientation to the enjoyment and understanding of music. Use is made of recordings, concerts, and other media. No prerequisite courses or special abilities required. Each semester.

**MUS 112: INTRODUCTION TO AFRO-AMERICAN MUSIC 3 s.h.**

An introductory course designed to provide a basic orientation to the enjoyment and understanding of Afro-American music. Use is made of recordings, filmstrips, and films. The course is non-performance. No prerequisites. Each semester.

**MUS 131: FUNDAMENTALS OF MUSIC 3 s.h.**

The basic vocabulary of music fundamentals: notation, scale structures, key signatures, triads and seventh chords, rhythm and meter, harmony and its functions, intervals, sight-singing and ear training, dynamics, transposition, practical application by use of a keyboard instrument, introductory study of two-and-three part forms, etc. No prerequisite. Each semester.

- MUS 133: MUSIC FUNDAMENTALS FOR ELEMENTARY TEACHERS** 2 s.h.  
A study of specific fundamental concepts of music both written and aural, technical and aesthetic, as preparation for the implementation of music activities to be conducted by the elementary classroom teachers. The degree and complexity of musical concentration presented is determined and guided by the practical application of knowledge assimilated as it directly relates to its use in the general classroom. No prerequisite. Elementary Education majors only. Each semester.
- MUS 135: THEORY OF MUSIC I** 4 s.h.  
Review of basic properties and notation of tone. Tonality, chord structure and texture. Functions of primary and secondary triads. Chord progressions. Melodic and harmonic cadences. Harmonization and voice leading. First and second inversion chords. Formal characteristics of melody. Embellishing tones. Introduction to harmonic, melodic and rhythmic ear training, dictation, and sight-singing. For music majors or by permission. Fall, annually.
- MUS 136: THEORY OF MUSIC II** 4 s.h.  
Continuation of Theory of Music I. Further aspects of harmony; diatonic seventh chords, secondary dominants, mutated chords, harmonic sequence. Further discussion of melodic and harmonic cadences. Modulation and mutation. Introduction to binary and ternary forms. Further development of ear training, dictation, and sight-singing. For music majors or by permission. Prerequisite: MUS 135. Spring, annually.
- MUS 151: HISTORY AND LITERATURE OF MUSIC I  
ANTIQUITY TO 1600** 3 s.h.  
Music before the Middle Ages: Greece, Rome, Byzantium, Medieval music: Gregorian Chant, secular forms. Early polyphony: music of the 13th century. Ars Nova in France and Italy. English and Burgundian schools: Burgundian Chanson, Motet, Mass. Renaissance music: social conditions; Netherlands Chanson Motet, Mass; Venetian, French, German, Spanish, and English music of the Renaissance. The Late Renaissance: Lutheran, Chorale, Psalter, Anglican Church music; Palestrina, Victoria, Di Lasso, Byrd. English keyboard music; Gabrieli and instrumental music. For music majors or by permission. Fall, annually.
- MUS 152: HISTORY AND LITERATURE OF MUSIC II  
BAROQUE AND CLASSICAL 1600-1800** 3 s.h.  
Comparison of Renaissance and Baroque music; Early Baroque in Italy; Early and Middle Baroque in Northern countries; Middle Baroque in Italy; French music under absolutism; English music during Commonwealth and Restoration; Late Baroque in Italy and France; fusion and co-ordination of national styles; social conditions; Rococo; the Viennese Classic period; style and form of Viennese classic music: Haydn, Mozart. For Music majors, or by permission. Prerequisite: MUS 151. Spring, annually.
- MUSICAL ORGANIZATIONS:** MUS 150-195 may be taken for one credit or for no credit. Credits thus earned may not be counted among the Humanities in General Education but may be counted under Personal Development and Life Skills and under Free Electives, with no more than eight of these credits counted for graduation. Open to all students with permission of instructor.
- MUS 150: LYRIC THEATRE WORKSHOP** 0-1 s.h.  
**MUS 153: CONCERT CHOIR** 0-1 s.h.  
**MUS 154: MADRIGAL SINGERS** 0-1 s.h.  
**MUS 155: SYMPHONY ORCHESTRA** 0-1 s.h.  
**MUS 156: SYMPHONIC BAND** 0-1 s.h.  
**MUS 157: MARCHING BAND** 0-1 s.h.  
**MUS 159: LABORATORY JAZZ BAND** 0-1 s.h.  
**MUS 190: BRASS CHOIR** 0-1 s.h.  
**MUS 191: BRASS ENSEMBLE** 0-1 s.h.

MUS 192:	PERCUSSION ENSEMBLE	0-1 s.h.
MUS 193:	STRING ENSEMBLE	0-1 s.h.
MUS 195:	WOODWIND ENSEMBLE	0-1 s.h.

MUS 160:	PIANO CLASS I	1 s.h.
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Designed to service two categories of students: the non-piano music education major and the non-music major. The purpose for both is the same: teaching piano to beginners in such a manner that they attain an acceptable degree of elementary technical proficiency at the keyboard, a basic knowledge of fundamental scales and chords and a burgeoning comprehension of the existence and desirability of musicianship. Stress is placed on the development of basic keyboard skills and upon a musical performance of all levels of performance. The class is limited to 12 students, therefore the possibility exists that a non-music major may be required to reschedule the class so that freshman/sophomore music majors can elect the class to meet curriculum requirements. Prerequisite: MUS 131 or equivalent background. Each semester.

MUS 161:	PIANO CLASS II	1 s.h.
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This course is designed to help the student to develop the ability to perform the skills begun in Piano Class I, at a more advanced level. Prerequisite: MUS 160, Piano Class I, or permission of instructor. Each semester.

MUS 162:	VOICE CLASS I	1 s.h.
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Designed to give students an approach to vocal methods in order to eliminate problems. The purpose is to teach each student to treat his or her voice as an instrument. Class instruction is offered in voice for the non-voice major. Emphasis is placed on the development of the vocal instrument and an attitude of artistic maturity on the part of the students and upon artistic performance at all levels of proficiency. Prerequisite: MUS 131 or equivalent background. Each semester.

MUS 163:	VOICE CLASS II	1 s.h.
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A continuation of Voice Class I. It is designed to provide more advanced techniques for producing a free, artistic sound. A survey of various vocal styles from traditional repertoire is provided. Prerequisite: Voice Class I or permission of instructor. Each semester.

## Applied Music

Individual instruction in strings, woodwinds, brass, percussion, piano, voice, and organ. Stress is placed on the development of an attitude of artistic maturity on the part of the student and upon artistic performance at all levels of proficiency. Admission by audition and permission of instructor and department chair. Admission of non-majors is dependent upon availability of the staff. All matriculated music majors must elect applied music credits on instrument/voice in residence. For more information see Music Department Chair. Prerequisite: MUS 131 or equivalent background. Course numbers are listed below.

MUS 164:	VIOLIN, VIOLA	1 s.h.
MUS 165:	CELLO, STRING BASS	1 s.h.
MUS 166:	FLUTE, OBOE, SAXOPHONE	1 s.h.
MUS 167:	CLARINET, BASSOON	1 s.h.
MUS 168:	TRUMPET, FRENCH HORN	1 s.h.
MUS 169:	TROMBONE, BARITONE HORN, TUBA	1 s.h.
MUS 170:	PERCUSSION	1 s.h.
MUS 171:	PIANO	1 s.h.
MUS 172:	VOICE	1 s.h.
MUS 173:	ORGAN	1 s.h.

Offered each semester.

Advanced applied instruction is for Performance majors only.

MUS 264:	VIOLIN, VIOLA	4 s.h.
MUS 265:	CELLO, STRING BASS	4 s.h.
MUS 266:	FLUTE, OBOE, SAXOPHONE	4 s.h.
MUS 267:	CLARINET, BASSOON	4 s.h.
MUS 268:	TRUMPET, FRENCH HORN	4 s.h.
MUS 269:	TROMBONE, BARITONE HORN, TUBA	4 s.h.
MUS 270:	PERCUSSION	4 s.h.
MUS 271:	PIANO	4 s.h.
MUS 272:	VOICE	4 s.h.
MUS 273:	ORGAN	4 s.h.

Offered each semester.

**MUS 232: KEYBOARD SKILLS FOR ELEMENTARY TEACHERS** 3 s.h.  
 Various styles of accompaniment; also sight reading of classroom and community songs. Emphasis upon the development of technical skills, reading facility, and memorization. Prerequisite: MUS 131 or equivalent background. On demand.

**MUS 233: SONG LITERATURE FOR ELEMENTARY TEACHERS** 3 s.h.  
 A further study of the materials used in music education in the elementary school, including a review of the song material available in various music series textbooks and vocal command of this material. Emphasis is on the criteria for choosing song material to illustrate various musical concepts, along with guidelines for music curriculum development. Prerequisites: MUS 131 or 133 or permission of instructor. On demand.

**MUS 234: BASIC MUSIC METHODS FOR ELEMENTARY TEACHERS** 2 s.h.  
 A study of basic approaches for development and methods and materials applicable to teaching music in the elementary grades. Emphasis is placed upon increasing keyboard and vocal skills, relevant theoretical background, and upon musical activities to be conducted by the classroom teacher. Prerequisite: MUS 131 or 133. Each semester.

**MUS 235: THEORY OF MUSIC III** 4 s.h.  
 Continuation of Theory II. Further aspects of harmony; ninth, eleventh, thirteenth, embellishing diminished, Neapolitan, and augmented sixth chords. Aspects of tonal structure and form. Thematic development in two-voice counterpoint. The rondo and sonata-allegro forms. Advanced ear training, dictation, and sight-singing. For music majors or by permission. Prerequisite: MUS 136. Fall, annually.

**MUS 236: THEORY OF MUSIC IV** 4 s.h.  
 Continuation of Theory III. Investigation of enriched tonal resources through chromaticism, modality, and modulation. Melodic, harmonic, formal, and contrapuntal processes and analytical techniques in twentieth century music. Discussion of the fugue and the variation forms. Advanced ear training, dictation, and sight-singing. For music majors or by permission. Prerequisite: MUS 235. Spring, annually.

**MUS 249: HISTORY OF AFRO-AMERICAN MUSIC** 3 s.h.  
 A study of Afro-American music in the United States from its point of origin in African cultures through the development of slave music, blues, ragtime, and jazz. An in-depth and analytical study of the styles and techniques employed in various idioms of Afro-American music with regard to vocal and instrumental usage of melody, harmony, and rhythm. Prerequisite: 1 semester of music theory (MUS 131, or MUS 135) or some equivalent background, or permission of the instructor. Offered when faculty is available.

**MUS 251: HISTORY AND LITERATURE OF MUSIC III—  
 BEETHOVEN, AND THE ROMANTIC PERIOD:  
 1800-1890** 3 s.h.  
 Beethoven: life and character; Beethoven's music. Romanticism, historical perspective, social conditions, painting and literature. Vocal music, instrumental music, opera and music drama. The national schools: Russia, Bohemia, Scandinavia, France, England, Spain, American music. Prerequisite: MUS 151 and 152. Fall, annually.

**MUS 252:** HISTORY AND LITERATURE OF MUSIC IV,  
CONTEMPORARY MUSIC: 1890 TO THE PRESENT 3 s.h.

The late romantics, impressionism, Stravinsky, Bartok, Hindemith, neoclassicists, nationalists, Soviet realism, neo-romantics, 12-tone composers, expressionism serial, music. Schoenberg, Berg, Webern, etc.; experimentalists, electronic music, Stockhausen, Boulez, etc. American music from the late 19th century to the present. Prerequisite: MUS 151, 152, and 251. Spring, annually.

**MUS 253:** HISTORY OF JAZZ 2 s.h.

Emphasis is placed on the nature and process of jazz and particularly its historical background and development in the United States. This study presents logical musical derivatives and developments and demonstrates the important elements that comprise individual jazz styles as they have evolved to the present time. Alternate years.

**MUS 260:** VOCAL PEDAGOGY 1 s.h.

Systematic study of the physical nature and function of the vocal instrument and breathing process and how they relate to the fundamental principles of teaching vocal technique. Application of this knowledge to the principles of vocal production and technique through lectures, demonstration and discussion, as well as group participation in instructing each other. Prerequisite: Minimum of 4 semesters of Voice or Voice Class I and II, or permission of instructor. Spring, biennially.

**MUS 274:** INTRODUCTION TO THE BUSINESS OF MUSIC 3 s.h.

An introduction to the multi-faceted music industry of today. Topics studied include music retailing, instrument sales, the music agent, artist management, contracts, concert promotion, licensing, publishing, copyright, songwriting, unions and guilds, music in production, advertising and promotion, music in broadcasting and film, career planning and development. Does not count toward Humanities requirement. Prerequisite: Sophomore standing. Alternate years.

## Instrumental Techniques

This sequence of courses is designed to acquaint the music major with a basic knowledge of the instruments commonly used in bands and orchestras. Sufficient techniques must be developed by each student to enable her or him to introduce these instruments successfully to beginners in elementary and secondary school instrumental programs. Includes proper methods of tone production, fingerings, bowing techniques, embouchure and breath control, selection and purchase of instruments for school use, care and maintenance of instruments, selection, care and adjustment of reeds or strings, storage of instruments, methods used in instruction of the instrument, and historical aspects of each family of instruments. For music majors or by permission.

**MUS 280:** INSTRUMENTAL TECHNIQUES I: VIOLIN, VIOLA 1 s.h.

**MUS 281:** INSTRUMENTAL TECHNIQUES II: CELLO,  
STRING BASS 1 s.h.

**MUS 282:** INSTRUMENTAL TECHNIQUES III: FLUTE,  
OBOE, SAXOPHONE 1 s.h.

**MUS 283:** INSTRUMENTAL TECHNIQUES IV: CLARINET,  
BASSOON 1 s.h.

**MUS 284:** INSTRUMENTAL TECHNIQUES V: TRUMPET,  
FRENCH HORN 1 s.h.

**MUS 285:** INSTRUMENTAL TECHNIQUES VI: TROMBONE,  
BARITONE HORN, TUBA 1 s.h.

**MUS 286:** INSTRUMENTAL TECHNIQUES VII: PERCUSSION 1 s.h.

Each semester.

**MUS 300: RECITALS**

0 s.h.

Section 01—This course is the music department's student recital series, which satisfies the department requirement. All music students must elect this course for seven to eight semesters as an extension of their curricular and performance activities. The music majors experience and/or perform music literature of all periods appropriate to their instrument or voice.

Section 02—Junior Recital—Music majors elect this section if they are preparing for a recital in their junior year of study. This section is elected concurrently with Section 01.

Section 03—Senior Recital—Music majors elect this section if they are preparing for a recital in their senior year. All B.M. in Performance majors must elect Section 03 to fulfill the requirement of a senior degree recital. This section is elected concurrently with Section 01.

**MUS 333: ELEMENTARY MUSIC METHODS**

3 s.h.

The role of music in elementary school; the roles of classroom teachers, the music specialists, and the consultant. Plans, attitudes, and problems in teaching vocal and instrumental music; curriculum development. Evaluation of musical experience and growth in primary, intermediate, and upper elementary grades. Music reading as an integral part of the total music program. Musical growth and experience in singing, part-singing, listening, instrumental and rhythmic activities. Emphasis on development of ability to use the voice effectively in teaching, and on the thorough familiarity with music series texts, use of keyboard, rhythmic instruments, recordings and new developments in teaching aids. Introduction to the Orff and Kodaly methods. Required observations and supervised teaching experiences arranged each semester. For music majors only. Prerequisites: MUS 135, 136. Fall, annually.

**MUS 334: JUNIOR HIGH AND SECONDARY MUSIC METHODS**

3 s.h.

A critical study of the entire intermediate and secondary school music program; academic, vocal, and instrumental. Curriculum planning, motivation, evaluation, selection of materials and texts, audio and visual aids, and effective teaching methods for the general music course and for elective courses in theory, history, and appreciation of music. Particular attention is given to the organization and development of both large and small vocal and instrumental groups; recruitment; selection of repertoire; performance levels; music rehearsal rooms and facilities; public performance and public relations. For music majors only. Prerequisites: MUS 135, 136. Spring, annually.

**MUS 349: ART SONG LITERATURE I**

2 s.h.

Representative song repertoire of the German lied and the English language art song will be studied from historical and performance perspectives. The songs of Schubert, Schumann, Brahms, Wolf, Strauss, Britten and Rorem will be stressed. Prerequisite: MUS 251, 252 or permission of the instructor. On demand.

**MUS 350: ART SONG LITERATURE II**

2 s.h.

Representative song repertoire of French, Italian, Slavic and Russian composers will be studied from historical and performance perspectives. The songs of Faure, Debussy, Ravel, Poulenc and Moussorgsky will be stressed. Prerequisite: MUS 251, 252 or permission of the instructor. On demand.

**MUS 351: KEYBOARD LITERATURE**

3 s.h.

A comprehensive survey of keyboard music from the Renaissance to the present. Representative works from each period as selected for careful study and analysis, with emphasis on performance practices as well as formal and stylistic elements in the music. Includes the development of various keyboard instruments. Prerequisites: MUS 251, 252, or permission of instructor. Offered when faculty is available.

- MUS 352: SYMPHONIC LITERATURE 3 s.h.**  
An intensive study of orchestral music from the Baroque period to the present, using scores, live performances, and recordings with particular reference to performance practices and stylistic analysis. Prerequisites: MUS 251, 252 or permission of instructor. Offered when faculty is available.
- MUS 353: CHAMBER MUSIC LITERATURE 3 s.h.**  
An intensive study of music written for small ensembles from the Renaissance period to the present. Representative works from each period will be selected for careful investigation and analysis. Performance by members of the class or by faculty groups whenever possible. Prerequisites: MUS 251, 252, or permission of instructor. Offered when faculty is available.
- MUS 355: OPERATIC LITERATURE 3 s.h.**  
A comprehensive survey of the entire field of operatic music from 1600 to the present, including 17th century Baroque opera; 18th century operatic reforms (Gluck and Mozart); opera in the 19th century (Verdi, Wagner, Strauss, and Puccini); 20th century trends in opera (Stravinsky, Berg, Britten, Menotti, etc.) Prerequisites: MUS 251, 252, or permission of instructor. Offered when faculty is available.
- MUS 356: CHORAL LITERATURE 3 s.h.**  
A comprehensive survey of choral music from the fifteenth century to the present with emphasis on masses, motets, and madrigals of the Renaissance period; oratorios, cantatas, and passions of the Baroque period; major choral works of Haydn, Mozart, Beethoven, Berlioz, Mendelssohn, Verdi, and Brahms; choral works of the twentieth century. Prerequisites: MUS 251, 252, or permission of the instructor. Offered when faculty is available.
- MUS 357: BAND LITERATURE 3 s.h.**  
A comprehensive survey of the available published and recorded literature for marching, military, and concert bands, symphonic and wind ensembles, and woodwind and brass chamber ensembles including transcriptions and arrangements; major publishers in the field; evaluation of various editions; and also a study of the principal trends of instrumental pedagogy, repertoire, and performance. Prerequisites: MUS 131, 134. Offered when faculty is available.
- MUS 361: PIANO TEACHING METHODS & MATERIALS 3 s.h.**  
A comprehensive survey of modern piano teaching methods and available published teaching materials. Emphasis will be placed on the teaching of notation and the development of reading skills; the teaching of keyboard techniques through an understanding of the player's physical mechanism and the coordination of timing and touch; problems of fingering, pedaling, and memorization. Evaluation of materials for beginning students; easier teaching pieces by the great composers; anthologies; appropriate music for the intermediate student, leading to a more advanced technique and musicianship and to acquaintance with a wide range of composers and musical styles. Prerequisites: MUS 151, 152; or MUS 131 and permission of the instructor. Offered when faculty is available.
- MUS 362: INSTRUMENTAL METHODS 2 s.h.**  
Principles and procedures of organizing and conducting instrumental classes, bands, and orchestras in the public schools. Examination and use of texts, methods, and other materials. For music majors or by permission. Spring, annually.
- MUS 363: VOCAL METHODS 2 s.h.**  
Principles and procedures of organizing and conducting vocal classes and choral ensembles in the public schools. Vocal techniques, tone production, proper vowel placement, proper focus on tone, diction, diaphragmatic breathing, and investigation of choral literature. For music majors or by permission. Fall, annually.



- MUS 364: COMPOSITION 3 s.h.**  
A study of the nature of the musical idea and of the various possibilities of its subsequent development, including canonic or fugal treatment, motivic development, and variational procedures. A review of traditional structural plans and of contemporary formal and stylistic trends. Creative assignments emphasize the understanding of past and present compositional styles and techniques and the gradual development of a personal language. Prerequisites: MUS 135, 136, or permission of instructor. Offered when faculty is available.
- MUS 365: CONDUCTING I 2 s.h.**  
Designed to develop skilled baton techniques and clarity of gesture, effective rehearsal techniques, understanding of performance problems involving tonal balance, tempo, complex rhythmic situations, especially as related to intermediate and secondary school instrumental groups. Traditional and modern beat patterns; expressive gestures; cues and development of left hand; fermata; etc. Study of scores; problems of interpretation and rehearsal; performance preparation. For music majors or by permission. Fall, annually.
- MUS 366: CONDUCTING II 2 s.h.**  
Continuation of Conducting I with emphasis on mastery of technique; special emphasis on problems of vocal groups in junior and senior high school. Spring, annually.
- MUS 367: ORCHESTRATION 2 s.h.**  
Basic principles of clear instrumental organization and tonal interest, related to the size of the instrumental group. Ranges and registers of the instruments; transposition; bowing and phrasing; phrasing for woodwind instruments; possibilities and limitations. Texture, timbre, dynamics, principles of tonal interest; contract of timbre; instrumental motion; blend. Structural values; design, overlapping of choirs. Prerequisites: Theory of Music I and II, Instrumental Techniques (minimum of one credit in each family of instruments.) Each semester.
- MUS 368: BAND ARRANGING 3 s.h.**  
A study of instrumentation and scoring problems in marching, military, and concert bands, symphonic wind ensembles, and woodwind and brass chamber ensembles. Emphasis on score layout and notation, copying and multiple reproduction of parts, copyright implications, and knowledge of effective combination of instrumental sounds. Prerequisites: MUS 131 (or equivalent background) and consent of instructor. Offered when faculty is available.
- MUS 369: MARCHING BAND TECHNIQUES AND MATERIALS 2 s.h.**  
A detailed study of the marching band including organization, music materials, care of instruments and uniforms, marching essentials, administration, and contemporary techniques. Prerequisites: MUS 135, 136 or permission of the instructor. On demand.
- MUS 411: SPECIAL TOPICS IN MUSIC 3 s.h.**  
Topics of special interest in the field of music will be offered. Subject areas such as Orff—Music for Children; Kodaly method; Mozart, the Man and his Music will be studied. Topics will be announced in advance. Offered occasionally.
- MUS 431-531: MUSIC IN EARLY CHILDHOOD 3 s.h.**  
The study of music activities for the early childhood years (ages 2-8) and methods for implementing these activities. Topics include a study of the development of the child voice; singing activities and criteria for song selection; music concept development through listening discrimination, expressive movement and creative instrumental activities; introductory music reading activities; an overview of current trends in music education. Prerequisites: MUS 131 or 133 and 234 or permission of instructor. Offered when faculty is available.

- MUS 451: ADVANCED CONDUCTING 3 s.h.**  
A study of selected works by band, choral, and orchestral literature with particular reference of performance problems involving tonal balance, tempi, complex rhythmic and poly-metric situations, vocal intonations, and diction. Conducting experience with band, choir and/or madrigal singers, and orchestra in rehearsal. Emphasis on a thorough understanding of the musical score and on effective rehearsal techniques. Prerequisites: MUS 356, 366, or permission of instructor. Offered when faculty is available.
- MUS 452: WESTERN MUSIC AND ITS RELATIONSHIP TO FINE ARTS 3 s.h.**  
This course will consist of a comparative study of Western music in its stylistic relationship to the Fine Arts from the middle ages through the twentieth century. In addition it aims to show how the various arts responded to each other in the pattern of cultural history. No prerequisite courses are required, but a rudimentary background in music or art is desirable. Offered when faculty is available.
- MUS 453: MELODIC IMPROVISATION 2 s.h.**  
The course is designed to provide the advanced music student with fundamental concepts of improvisational techniques which may be applied to the development of skills for the invention and performance of improvised melodies. Prerequisites: MUS 135, 136, 235, 236, or equivalent theoretical background. Offered when faculty is available, alternate years.
- MUS 455: JAZZ COMPOSITION AND ARRANGING 2 s.h.**  
A study of the basic techniques and methods of jazz composition and arranging. In addition to writing musical arrangements and original compositions for various jazz and popular idioms, participants are afforded the opportunity to conduct and perform their own works. Prerequisite: MUS 367 or by permission of the instructor. Alternate years.

## Advanced Instrumental Techniques and Pedagogy

The sequence of courses listed below constitutes further study of the symphonic instruments. Specialized techniques which are employed by each instrumental family will be presented and mastered (strings, woodwinds, brasses, percussion.) Sufficient techniques will be developed by the student to enable him or her to introduce and teach these instruments successfully at the elementary or secondary level. The course will include methods, materials, manufacturers, suppliers, repair procedures, and procedures for private, homogeneous and heterogeneous group instruction; studio teaching and management; musicianship and creativity as part of the lesson; planning for various grade levels; history of teaching and study of leading methods.

- MUS 461: ADVANCED STRING TECHNIQUES AND PEDAGOGY 2 s.h.**  
Prerequisites: MUS 281 or 282, or permission of instructor.
- MUS 462: ADVANCED WOODWIND TECHNIQUES AND PEDAGOGY 2 s.h.**  
Prerequisites: MUS 282 or 283, or permission of instructor.
- MUS 463: ADVANCED BRASS TECHNIQUES AND PEDAGOGY 2 s.h.**  
Prerequisites: MUS 284 or 285, or permission of instructor.
- MUS 464: ADVANCED PERCUSSION TECHNIQUES AND PEDAGOGY 2 s.h.**  
Prerequisites: MUS 286 or permission of the instructor.

MUS 490: INDEPENDENT STUDY 1-3 s.h.  
Opportunity to explore, in depth, an area of music of particular interest under the guidance of a faculty member. A scholarly paper or special project(s) will be required for credit and grade. Prerequisite: Permission of the instructor and department chair.

## Nursing

### Associate Degree

NURS 101: INTRODUCTION TO NURSING PROCESS: 8 s.h.  
FUNDAMENTALS OF NURSING

This course introduces the student to Nursing, Man and Health, which are fundamental concepts to the Nursing Process. Emphasis is placed on man's basic needs according to his established priorities and the related interventions. Clinical experience is provided for the student to develop beginning competencies in those technical skills necessary to carry out the prescribed nursing care plan and medical regimen. Four lecture and twelve laboratory or clinical experience hours weekly. Fall, annually.

NURS 102: NURSING PROCESS I: PARENTAL AND 4 s.h.  
CHILD HEALTH

This course introduces the student to the family unit during the normal maternal cycle and development of the infant through the first year. Opportunities are provided for the student to work with families during the antepartal, intrapartal and postpartal health experience. Alterations in the normal health situation are also presented with a focus on adapting nursing care to meet the individual needs of the client and family. Two lectures and six clinical experience hours weekly. Prerequisites: BIOL 258, PSY 211, minimum grade of C in NURS 101. Spring, annually.

NURS 103: NURSING PROCESS II 4 s.h.

This course is an introduction to the nursing process as the basis for the practice of nursing. Opportunities are provided for the student to develop expertise in the following components of the nursing process: assessment, planning, implementation and evaluation. Each aspect of the nursing process is applied to the care of the client and family during activities of daily living. Two lecture and six clinical experience hours weekly. Prerequisites: BIOL 258, PSY 211, minimum grade of C in NURS 101. Spring, annually.

NURS 201: NURSING PROCESS III 8 s.h.

This course provides the student with an indepth knowledge of the nursing process. The nursing diagnosis is the basis for assisting clients and families in establishing priorities for client needs relating to communication, oxygen exchange, oxygen transport, comfort, protective safety, and nutrition; and mobilizing resources of the client and family in the decision-making process. Opportunities are provided for students to develop competencies in technical and communication skills necessary to carry out the prescribed nursing care plan and medical regimen. Four lectures and twelve clinical experience hours weekly. Prerequisites: BIOL 258 and 259; PSY 211 and 260; minimum grade of C in NURS 101, 102, and 103. Fall, annually.

NURS 202: NURSING PROCESS IV 8 s.h.

Nursing Process IV is a logical extension of Nursing Process III and continues to increase the student's knowledge and understanding of the nursing process. The nursing diagnosis is basis for assisting the client and family in establishing health goals related to elimination, mobility structure, mobility function, regulatory safety and life crises. This course provides additional opportunities for the student to develop expertise in specific technical and communication skills while working as a member of the health team in acute care settings. Four lecture and twelve clinical experience hours weekly. Prerequisites: BIOL 258, and 259; PSY 211 and 260; minimum grade of C in NURS 101, 102, 103, and 201. Spring, annually.

**NURS 203: NURSING SEMINAR 2 s.h.**

This course is designed to introduce the student to the relevant aspects of change in the nursing profession, ranging from historical development to current issues and trends. Opportunities are provided for the student to participate in indepth studies of selected topics of interest. Prerequisites: minimum grade of C in NURS 101, 102, 103, and 201. Spring, annually.

## Bachelor's Degree

**NURS 340: MAN-HEALTH-NURSING 3 s.h.**

This course introduces the student to General Systems Theory and how it relates to man, health, and nursing. Man is discussed in relation to his physical, social, and moral development. The health-illness continuum is the basis for study of man's level of well-being with additional focus on the health belief model and the health care delivery system. Nursing as a profession is discussed with emphasis on the historical perspectives, socioeconomic influences, and cultural differences which affect nursing practice. Nursing is viewed as a practice discipline based on the theoretical foundation. Nursing theory and nursing inquiry are emphasized as the basis for the practice of professional nursing. This course may be taken concurrently with Advanced Nursing Process, but it is required as a prerequisite to all clinical nursing courses. Summer or Fall annually.

**NURS 351: PUBLIC SCHOOL NURSING 3 s.h.**

This course emphasizes the new dimensions of school health and public school nursing. Personal qualifications, professional preparation, and the expanded role of the school nurse are defined and explored in the classroom and in the clinical practicum. Health education and health promotion of school age children and adolescents is a concentrated area of study. Each student has a clinical practicum with a certified school nurse in the public school setting. Prerequisite: B.S. with major in Nursing.

**NURS 361: ADVANCED NURSING PROCESS 6 s.h.**

This course includes a detailed study of the nursing process emphasizing the role of nursing diagnosis in professional nursing practice. Each aspect of the nursing process is related to the specific needs of the client requiring nursing intervention throughout his or her life processes. Opportunities are provided for the student to develop expertise in assessment, diagnosis, planning, implementation, and evaluation in a variety of settings. This course may be taken concurrently with Man-Health-Nursing, but it is required as a prerequisite to all other clinical nursing courses. Three lecture and nine clinical hours weekly. Fall, annually.

**NURS 445: INQUIRY IN NURSING 3 s.h.**

This course emphasizes the role of inquiry as it applies to nursing. It includes principles of research and scientific method of inquiry. This course focuses on the ways that research influences nursing and nursing care. Current research will be critiqued for applicability to professional nursing practice in a variety of settings. Prerequisites: This course may be taken concurrently with Advanced Nursing Process: Acute Care, but it is required as a prerequisite to NURS 464. A course in statistics and a minimum grade of C in NURS 340, 361, and 462 is required. Fall, annually.

**NURS 457: LEADERSHIP SKILLS IN NURSING 3 s.h.**

This course provides a theoretical foundation for the practice of independent and interdependent nursing. The principles of leadership and management are introduced the registered nurse, and their application to professional nursing is emphasized. The major focus is on the concepts of change, group process, management, organization, and evaluation. Prerequisites: Minimum grade of C in NURS 340. Spring or Fall annually.

**NURS 462: ADVANCED NURSING PROCESS: CHRONIC CARE 6 s.h.**

The conceptual focus of this course is the nursing process with emphasis on nursing diagnoses related to chronic alterations in health status. Professional nursing interventions are identified which facilitate the client and family to achieve a high level of well-being. Opportunities are provided for the student, as the client advocate, to apply the acquired theoretical knowledge to the care of clients of all ages in a variety of settings. Three lecture and nine clinical hours weekly. Prerequisites: Minimum grade of C in NURS 340 and 361. Spring, annually.

**NURS 463: ADVANCED NURSING PROCESS: ACUTE CARE 6 s.h.**

The conceptual focus of this course is the nursing process with emphasis on nursing diagnoses related to acute alterations in health status. Professional nursing interventions are identified which facilitate the client and family to achieve a high level of well-being. Opportunities are provided for the student, as the client advocate, to apply the acquired theoretical knowledge to the care of clients of all ages in a variety of settings. Three lecture and nine clinical hours weekly. Prerequisites: Minimum grade of C in NURS 340, 361 and 462. Fall, annually.

**NURS 464: ADVANCED NURSING PROCESS: HEALTH PROMOTION AND MAINTENANCE 6 s.h.**

The conceptual focus of this course is the nursing process with emphasis on nursing diagnoses related to health promotion and maintenance. Professional nursing interventions are identified which are directed toward health promotion and maintenance. Opportunities are provided for the student, as the client advocate, to apply the acquired theoretical knowledge to the care of clients of all ages in a variety of settings. Three lecture and nine clinical hours weekly. Prerequisites: Minimum grade of C in NURS 340, 361, 445, 462, and 463. Spring, annually.

## Other Nursing Courses

**NURS 299: SPECIAL TOPICS IN NURSING 1-3 credits variable**

This course deals with topics of special interest for all registered nurses. It will focus on identified nursing subjects needed by the registered nurse to keep abreast of the changing trends in the profession; and provide them with a mechanism for updating their nursing knowledge and clinical competencies. This program will be offered summers and weekends during the academic year according to demand, and will be open to all graduate and registered nurses.

**NURS 490: PHYSICAL ASSESSMENT 3 credits**

This course is designed for registered nurses who desire knowledge and skill in assessing the health of a client through a health history and physical examination. The focus is on wellness with emphasis on early detection of changes in the health status of the client. Opportunities are provided for the student to develop expertise in obtaining a health history and performing a physical assessment in a detailed and systematic manner. This course will be offered according to demand and will be open to all registered nurses.

**NURS 499: SPECIAL TOPICS IN NURSING 1-3 credits variable**

This course deals with topics of special interest to professional nurses. It will focus on identified nursing subjects pertinent to the practice of professional nursing. This course will be offered summers and weekends during the academic year according to demand, and will be open to all professional registered nurses.

## Office Management

OFMT 131: COLLEGE TYPING 2 s.h.

Beginning or refresher typing course for those students who have had no typing or limited previous typing experience. Students are tested for proficiency and then proceed at their own pace. Emphasis is on typing speed and accuracy. The course covers business and personal letters, manuscripts, rough drafts, centering and tabulation problems. Required for office management and legal secretary students who have not had at least two years of high school typing. Spring, annually, only at Venango Campus.

OFMT 132: PRODUCTION TYPING 3 s.h.

Advanced typing course. The emphasis is on speed and production of mailable work from rough drafts and unarranged office problems. Prerequisite: A least two years of high school typing, OFMT 131, or equivalent office experience. Fall, annually, only at Venango.

OFMT 135: COLLEGE SHORTHAND 3 s.h.

Beginning or refresher course in Gregg Shorthand. The course covers the shorthand alphabet and works to build speed in reading and writing shorthand. Required for all Office Management and Legal Secretary students who have not had at least two years of high school shorthand or equivalent office experience. Spring, annually, only at Venango.

OFMT 136: EXECUTIVE SHORTHAND 3 s.h.

Designed to build diction and transcription speed. Dictation will be given from unfamiliar materials. Transcription will be done in mailable form on typewriters. Some emphasis placed on punctuation, grammar, and letter styles. Prerequisite: OFMT 135; two years of high school shorthand; equivalent office experience. Fall, annually, only at Venango.

OFMT 221: OFFICE MANAGEMENT 3 s.h.

Designed to prepare students to function as administrative office managers. Coverage will include hiring procedures, management styles, employee pay and benefits, equipment selection, and changes in today's office procedures and personnel policies. Fall, annually, only at Venango.

OFMT 230: OFFICE PROCEDURES 3 s.h.

Covers the duties of administrative secretaries or administrative assistants. Topics such as typing duties, handling mail, preparing reports, filing, doing payroll and other book-keeping, insurance records, tax records, and other duties that are normally assigned to secretaries are covered. Prerequisite: at least two years of high school typing, OFMT 131, or equivalent office experience. Spring, annually, only at Venango.

OFMT 232: WORD PROCESSING 3 s.h.

Emphasis on concepts of word processing and hands-on experience on microcomputers using a word processing program. Prerequisite: OFMT 131. Each semester. Only at Venango.

## Philosophy

PHIL 111: ELEMENTARY LOGIC 3 s.h.

Principles of correct reasoning; principles of deductive and inductive inference and scientific method; use and misuse of language in reasoning. Each semester.

PHIL 112: SYMBOLIC LOGIC 3 s.h.

A study of the essential elements of symbolic logic including Boolean expansions, truth tables (symbolic proofs), the logic of relation, quantification rules, the properties of deductive systems, and propositional calculus. Special attention is given to the theoretical contributions of Carnap, Quine, Russell. Spring, odd-numbered years.

- PHIL 211: INTRODUCTION TO PHILOSOPHY** 3 s.h.  
Inquiry into the persistent problems of philosophy, primarily those concerning humans, nature and God. Prerequisite: sophomore standing. Each semester.
- PHIL 212: ETHICS** 3 s.h.  
Examination of the problems of value and moral standards with a view toward developing an appreciation of the nature of the moral life. Each semester.
- PHIL 215: MAJOR RELIGIOUS PHILOSOPHIES** 3 s.h.  
Examination of the religious philosophies which have their origins in the Far and Near East, in particular Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity, and Islam. Spring, odd-numbered years.
- PHIL 250: SPECIAL TOPICS IN PHILOSOPHY**  
Offered occasionally.
- PHIL 255: ANCIENT PHILOSOPHY** 3 s.h.  
Thinkers from the Ancient Greeks up to the Renaissance, with special attention to Plato, Aristotle, Augustine, and Aquinas. Spring, odd-numbered years.
- PHIL 256: MODERN PHILOSOPHY** 3 s.h.  
Thinkers from the Renaissance to the 19th Century, with special attention to Descartes, Spinoza, Hume, Kant, and Hegel. Prerequisite: PHIL 255 is recommended. Spring, odd-numbered years.
- PHIL 258: CONTEMPORARY EUROPEAN PHILOSOPHY** 3 s.h.  
A study of European humans and movements since 1850. Spring, odd-numbered years.
- PHIL 259: CONTEMPORARY ANGLO-AMERICAN PHILOSOPHY** 3 s.h.  
A study of Anglo-American humans and movements since 1900. Spring, even-numbered years.
- PHIL 350: PHILOSOPHY OF RELIGION** 3 s.h.  
Inquiry into the nature and validity of religious knowledge; the nature and existence of God; the nature of man and human destiny. Fall, even-numbered years.
- PHIL 352: EPISTEMOLOGY** 3 s.h.  
Concepts and problems involved in the appraisal of certain types of human knowledge: perception, knowledge and belief, and truth. On demand.
- PHIL 353: METAPHYSICS** 3 s.h.  
Inquiry into some of the fundamental philosophical concepts; being, substance, matter, mind, and God. Prerequisite: 6 credit hours in Philosophy. On demand.
- PHIL 354: AESTHETICS** 3 s.h.  
Study of some of the aesthetic theories from Plato to the present; nature of the aesthetic experience; principles of criticism in literature and the arts. Fall, annually.
- PHIL 355: HISTORY AND PHILOSOPHY OF SCIENCE** 3 s.h.  
Methods and procedures of reliable knowledge in the formal, natural, and social sciences. Prerequisite: PHIL 111 is recommended. Fall, annually.
- PHIL 356: ORIENTAL PHILOSOPHY** 3 s.h.  
Significant contribution to philosophical and religious thought in the Near East, India, China, and Japan. Fall, 1988, and alternate years.

## Physical Science

PHSC 111: BASIC PHYSICAL SCIENCE: CHEMISTRY\* 3 s.h.

This course is intended for non-science majors and does not assume prior familiarity with chemistry. It does not count toward requirements for science majors, but can be applied to fulfill the general education math-science requirements for non-science majors.

Selected chemical principles are explored with the purpose of providing a background that will enable the student as a citizen to understand issues involving the interaction of science and society; brief experiments are often included. Students who prefer a more traditional chemistry course may elect either Chemistry 151 or 153 to fulfill their general education requirements. No prerequisite. Each semester.

*\*No student may take, for credit, a chemistry course at the 100 level after having successfully completed any chemistry course numbered 300 or above.*

PHSC 112: BASIC PHYSICAL SCIENCE: PHYSICS  
AND ASTRONOMY 3 s.h.

This course is intended for those students not majoring in the sciences or mathematics, and does not presume any prior familiarity with the subject. Science and Math majors will not receive credit for this course. Topics discussed are descriptive astronomy, cosmology, light and optics, force and motion, fundamental electrical phenomena and simple circuits, the special theory of relativity, and radioactivity and the atom. Brief experiments are integrated with the subject matter to emphasize the experimental basis of theory. The Planetarium is extensively used in conjunction with the section in astronomy. No prerequisite. Each semester, plus summer.

PHSC 211: SOUND, MUSIC AND ACOUSTICS 3 s.h.

This course is primarily designed for the student majoring in Music or in a discipline in which the Physics of Sound is of considerable importance. Topics include the basic physics of wave motion, superposition of waves, transverse and longitudinal waves, diffusion, diffraction and reflection, intensity, quality, and harmonic analysis of sound waves, reverberation and absorption, sound production by musical instruments and the voice, noise and harmony, factors in hearing, and the electronic recording and reproduction of sound. Spring, even-numbered years.

PHSC 457: INTRODUCTION TO ELECTRONICS FOR  
AUDIO APPLICATIONS 3 s.h.

A survey of basic electricity and electronics. The course is intended to give the student an understanding of circuits, devices, measuring instruments, and measurement techniques used in typical audio applications. It is primarily intended for students in speech pathology and audiology, as an elective for both undergraduate and graduate students. Each spring semester.

## Physics

PH 251: GENERAL PHYSICS I 4 s.h.

A general introductory level course including topics in mechanics. Topics covered include kinematics, dynamics, vectors, energy, momentum, rotational motion, harmonic motion and waves. Designed for non-physics majors. Includes laboratory. Prerequisite: Algebra. Each fall.

PH 252: GENERAL PHYSICS II 4 s.h.

This is a continuation of PH 251, a general course in electricity, magnetism, light, and atomic physics. Topics discussed include general concepts of magnetism, electrostatics, electrical circuits, alternating currents, optical instruments, reflection, refraction, interfer-



ence, spectra, and some basic concepts of atomic structure. Designed for non-physics majors. Includes laboratory. Prerequisites: Algebra and PH 251. Each spring.

**PH 258: INTRODUCTORY PHYSICS LECTURE I 4 s.h.**

This is an introductory physics course designed for physics majors and pre-engineers. This course includes mechanics, heat, and sound. PH 268 must be taken concurrently by physics majors and prospective engineers. Prerequisite: MATH 270, which may be taken concurrently. Each fall.

**PH 268: INTRODUCTORY PHYSICS LABORATORY I 1 s.h.**

This laboratory complements PH 258, and should not be scheduled by students who are not enrolled in PH 258. Experiments performed in this laboratory include free-fall, momentum and energy, and wave phenomena. Computers are used to organize and analyze experimental data. Each fall.

**PH 259: INTRODUCTORY PHYSICS LECTURE II 4 s.h.**

A continuation of PH 258, an introductory course in physics designed for physics majors and pre-engineers. This course includes electricity, magnetism, light and atomic physics. PH 269 must be scheduled concurrently with PH 259 by physics majors and pre-engineers. Prerequisite: PH 258. Each spring.

**PH 269: INTRODUCTORY PHYSICS LABORATORY II 1 s.h.**

This laboratory complements PH 259, and should not be scheduled by students who are not also enrolled in PH 259. Experiments performed in this laboratory include DC electricity, magnetism, AC electricity, light lenses and spectrometers. There is a continuation of computer usage in this laboratory. Each spring.

**PH 350: MECHANICS—STATICS 3 s.h.**

An intermediate course in the mechanics of static objects. Topics include: studies of force in equilibrium, calculation of centroids and moments of inertia, and the analysis of forces on structures and trusses. Prerequisites: PH 251 or 258, and MATH 271. Each fall.

**PH 351: MECHANICS: DYNAMICS 3 s.h.**

This is an intermediate course in the mechanics. Techniques from vector analysis and differential equations are used to study mechanics at a level above that of PH 258. Topics include Newton's laws of motion, rectilinear motion under the influence of a variable force, oscillatory motion, energy, momentum, motion in three dimensions, central forces, celestial mechanics, systems of particles and rigid body motion. Prerequisites: PH 252 or 259; MATH 350. Each spring.

**PH 352: ELECTRICITY AND MAGNETISM 3 s.h.**

An intermediate course in electricity and magnetism. Vector algebra will be used for extensively in the presentation and development of the basic empirical laws of electromagnetism, and vector calculus will be introduced as required in the derivation and expression of Maxwell's equations. Topics include: electrostatics, dielectric media, current and circuits, magnetic fields, magnetic media, Maxwell's equations for vacuum and dielectric media, and electromagnetic waves. Prerequisites: PH 259 (or 252) and MATH 350. Fall, even-numbered years.

**PH 353: MODERN PHYSICS I 3 s.h.**

This is an intermediate course on modern physics. Topics include relativity, kinetic theory of matter, the photon, electron waves, the Bohr model of the Hydrogen atom, the Schrodinger wave equation, solution of the Schrodinger wave equation for the Hydrogen atom, atomic physics. Prerequisites: PH 252 or 259; MATH 270 with MATH 271 concurrently. Fall, even-numbered years.

PH 354: OPTICS 3 s.h.

This is an intermediate course in geometrical, physical, and modern optics. Topics include thin lenses, thick lenses, interference, diffraction, polarization, color theory, spectra, lasers, holography and fiber optics. Prerequisites: PH 252 or 259; MATH 271, with MATH 272 concurrently. Fall, odd-numbered years.

PH 355: MODERN PHYSICS II 3 s.h.

A continuation of Modern Physics I, including structure and spectra of molecules, band theory of solids, structure of the nucleus, radioactive decay, nuclear reactions, radiation detectors, and elementary particles. Prerequisites: PH 353, MATH 272. Spring, odd-numbered years.

PH 356: THERMODYNAMICS 3 s.h.

This is an intermediate course in heat. The basic concepts and principles are developed more intensively in the study of properties of gases and in thermodynamics. Some of the specific topics studied are temperature measurements, thermal expansion, specific heat, thermal conductivity of solids and liquids, thermal properties of gases, change in phase, and heat engines. Prerequisites: PH 252 or 259; MATH 272. Spring, even-numbered years.

PH 357: INTRODUCTION TO THE THEORY OF THE SOLID STATE 3 s.h.

The course will include the study of crystal structure, bonding, imperfections, electronic properties of solids, and semiconductors. Prerequisite: PH 353. Fall, odd-numbered years.

PH 371: EXPERIMENTAL PHYSICS I 3 s.h.

An intermediate-to-advanced-level laboratory including experiments spanning the areas of Heat, Mechanics, Electricity and Magnetism, Optics, and Atomic and Nuclear Physics. Students may select experiments from these areas according to their interests and background, and as dictated by equipment availability. Emphasis is placed on measurement precision and careful error analysis. Course includes one lecture hour per week and three laboratory hours per week (individually arranged). Prerequisites: Junior-Senior standing, and completion (or co-registration in) at least two of the following courses: PH 350, 351, 352, 353, 354, or 355. Each fall.

PH 372: EXPERIMENTAL PHYSICS II 2 s.h.

Continuation of Experimental Physics I. The one-hour lecture requirement is omitted, and the student completes a different set of experiments. Prerequisites: PH 371 and completion of (or co-registration in) at least four of the following courses: PH 351, 352, 353, 354, 355, 356, or 357. Each fall.

PH 400: SPECIAL TOPICS IN PHYSICS 3 s.h.

Topics of current interest in physics, that are not covered in another course of the curriculum, will be presented. While selection of subject matter will depend on activity in the discipline that is amenable to undergraduate instruction, the course will commonly include topics from one or more of the current research areas of physics. Prerequisites: Junior/senior standing and permission of the instructor, according to the preparation of the students for the topics to be covered. On demand.

PH 453: INDEPENDENT STUDY IN PHYSICAL MEASUREMENTS 2 to 6 s.h.

This is a course in the theory and use of precision measuring devices covering most of the areas of Physics. Experiments are devised to fit background and needs of the individual student, exploiting the equipment from all of the various special laboratories of the Physics Department. Students will work from three to six hours each week on experimental projects, according to the credit they elect upon consultation with their advisors.

PH 455: ANALOG ELECTRONICS 3 s.h.

An introduction to network analysis, A.C. circuits and solid state devices. Topics include discrete devices, power supplies, amplifiers, oscillators, and operational amplifiers. Particular attention is given to the application of circuits to scientific instruments. Prerequisites: PH 259/269 or PH 252, and a course in Integral Calculus. Fall, odd-numbered years.

PH 456: DIGITAL ELECTRONICS 3 s.h.

This course includes an introduction to gate circuits, Boolean algebra in the minimization of gate circuits, flip-flops, counters, timers, the design, operation, and programming of microcomputers, D/A and A/D conversion, and the interfacing of microcomputers to external devices. Prerequisites: PH 259 and 269, or PH 252, or permission of the instructor. Spring, odd-numbered years.

PH 457: DEMONSTRATION IN PHYSICS 2 s.h.

This course is designed for the secondary education major in physics and may not be used as a physics elective for the B.A. or B.S. in Physics major. Preparation and performance of classroom demonstrations for use in secondary schools are stressed. Prerequisites: PH 252 or 259. On demand.

PH 460: INTRODUCTION TO MATHEMATICAL PHYSICS 3 s.h.

This course uses the techniques of vector calculus and differential equations to treat problems in mechanics, electricity and other areas of physics at a level intended to prepare the physics major for graduate level work. Analog and digital computer techniques are discussed and applied to a variety of physical problems. Prerequisites: PH 258, 259, Mathematics through MATH 350. Spring, even-numbered years.

PH 461: SEMINAR 1 s.h.

This physics seminar consists of mastering the techniques of literature-survey and library research on specific topics, together with the preparation and presentation of formal reports of a research nature. Prerequisites: senior standing, science major. Spring, annually.

PH 498: UNDERGRADUATE RESEARCH IN PHYSICS I 3 s.h.

This course is intended to give senior physics majors useful experience in the procedures and techniques of laboratory research in physics. Students will either participate in an ongoing research project under the guidance of a faculty member, or initiate an investigation of their own. A final report in a form suitable for publication will be expected at the conclusion of the project. This course will serve as a substitute for PH 372: Experimental Physics II. Prerequisites: Senior standing with a minimum QPA of 3.0 in physics and 3.0 overall. Students wishing to enroll in PH 498 must notify the department chair during their junior year, secure signature of their academic advisors and of the research project director, and must complete a university petition for enrollment in an independent study course. All approvals must be completed prior to registration for research.

PH 499: UNDERGRADUATE RESEARCH IN PHYSICS II 1-3 s.h.

A continuation of PH 498, which may be used to continue specific lengthy research activities initiated in PH 498, for which one semester is insufficient time to allow project completion. This continuation is at the discretion of the project director, and the credits may not be substituted for other physics requirements. The same prerequisites must be fulfilled as for PH 498, except that notification of the department chair must precede any independent study deadlines set by the University.

## Political Science

PS 210: INTRODUCTION TO POLITICAL SCIENCE 3 s.h.

This course introduces students to the study of politics by using various approaches, by studying different political ideologies, and by examining different structures of government. Each semester.

- PS 211: AMERICAN GOVERNMENT 3 s.h.**  
The study of the general principles of the American system of constitutional government; special emphasis is placed upon the organization and functions of the national government — legislative, executive, and judicial. The rights and duties of citizenship, the electorate, political parties, civil rights, and the growing regulatory function of government are carefully treated. Each semester.
- PS 250: SPECIAL TOPICS IN POLITICAL SCIENCE**  
Offered occasionally.
- PS 300: STRATEGIC CONCEPTS AND INTERNATIONAL SECURITY 3 s.h.**  
Strategic concepts in the 20th century as they evolved from World War I to World War II to the nuclear age. Emphasis will be placed on global nuclear strategy and regional strategic thrusts. Every other year.
- PS 351: STATE AND LOCAL GOVERNMENT 3 s.h.**  
Deals mainly with a detailed study of how our state and local governments function. Emphasis is placed on Pennsylvania government. Independent study through outside projects is one of the requirements of this course. Every other year.
- PS 352: INTERNATIONAL POLITICS 3 s.h.**  
This course presents a framework for analyzing the behavior of states, the basic factors which motivate and affect international policies, and the techniques of resolving international conflicts. Every other year.
- PS 353: INTERNATIONAL ORGANIZATION 3 s.h.**  
This course deals with international organizations, both historically and analytically. Emphasis is placed on configurations that induce state behaviors leading to resolution of international conflicts and to the solution of common problems. Every third year.
- PS 354: CONSTITUTIONAL LAW OF THE UNITED STATES 3 s.h.**  
A study of the development of the Constitution through the interpretations of the Supreme Court. This includes a study of the separation of governmental powers, political and judicial processes, federalism as a legal device, and the relationship of liberty and authority to the individual living under government. Prerequisite: PS 211. Spring, annually.
- PS 355: POLITICAL PARTIES AND ELECTIONS 3 s.h.**  
A survey course with emphasis on the study of the electorate, pressure groups, and public opinion, nature and history of political parties, party organization, methods of nominations, and elections. Special attention is given to the place of political parties and elections as instruments of democracy and their place in the framework of Pennsylvania's government. Fall, annually.
- PS 365: ANCIENT AND MEDIEVAL POLITICAL THOUGHT 3 s.h.**  
The development of political theory from Plato to Machiavelli. Every year.
- PS 366: MODERN POLITICAL THOUGHT 3 s.h.**  
Political thought from the Reformation to the twentieth century. Every year.
- PS 375: PUBLIC ADMINISTRATION 3 s.h.**  
An introduction to the study of public administration with emphasis on its function in the American political process. Every other year.
- PS 390: COMPARATIVE FOREIGN POLICIES 3 s.h.**  
Concepts for analysis of internal and external factors in making foreign policies. Emphasis will be placed on the foreign policy of the United States, the Soviet Union, the United Kingdom, Japan, West Germany, France, and China. No prerequisite. Every other year.

**PS 451: COMPARATIVE GOVERNMENT** 3 s.h.  
A consideration of the problem inherent in comparing political systems with emphasis on the British, French, and Soviet political systems. Every year.

**PS 458: ENGLISH CONSTITUTIONAL HISTORY** 3 s.h.  
A consideration of constitutional government in England from the beginning of English history to the present. The study of governmental powers, political and judicial processes, and the relationships of liberty and authority to the individual living under the government is included. Every other year.

## Psychology

**PSY 211: GENERAL PSYCHOLOGY** 3 s.h.  
Study is made of the general subject matter of psychology as a science and its major findings. Areas of particular emphasis include genetics, development, learning and motivation, emotions, sensation and perception, personality and abnormal adjustment, and other social behavior of groups. No prerequisite. Each semester at both Clarion and Venango campuses.

**PSY/GS 220: HUMAN SEXUALITY** 3 s.h.  
A basic course in self-understanding. The student is given the opportunity to be informed on (a) the physical, psychological, ethical, social, and legal components of sexuality as they relate to attitudes toward self and others; (b) the roles involved in being male and female; (c) relationships as they are affected by attitudes; and (d) the responsibilities of such relationships. No prerequisites. Each semester.

**PSY 225: PSYCHOLOGY OF ADJUSTMENT** 3 s.h.  
This course emphasizes the psychodynamics of personal growth and social interactions enabling each student to explore self-identity, social relationships, and environmental influences. Problems of personality, defense mechanisms, the origin and resolution of conflicts and stress, and the role of emotions in behavior and health are studied. No prerequisite. Each semester at Clarion. Annually at Venango.

**PSY/MGMT 228: HUMAN BEHAVIOR IN ORGANIZATIONS** 3 s.h.  
A survey of the application of psychological theory, techniques, and research to organizations. The psychological principles of selection, training, attitudes, motivation, job satisfaction, job evaluation, and performance are analyzed. No prerequisite. Annually at Venango Campus.

**PSY 230: INTRODUCTORY STATISTICS FOR THE BEHAVIORAL SCIENCES** 4 s.h.  
Basic descriptive and inferential statistical techniques (frequency distributions, measures of variability and central tendency, correlation, regression, z, t and F tests) will be covered. Special attention during class and a required laboratory meeting will be given to the use of those techniques in dealing with data in the behavioral sciences and their importance in the research endeavor. No prerequisite. Each semester.

**PSY 251: EXPERIMENTAL PSYCHOLOGY** 4 s.h.  
This course is designed to familiarize students with the methods used by psychologists to systematically collect information about the behavior of people and other animals. Experiments are conducted during laboratory meetings and particular attention is given to the appropriate style of writing research reports. PSY 211 and PSY 230 are prerequisites; concurrent registration with PSY 230 permitted only with consent of the instructor. Each semester.

**PSY 260: DEVELOPMENTAL PSYCHOLOGY 3 s.h.**

This course is a survey of research and theory on human development. Students will study social, cognitive, emotional, and physical aspects of development from conception to death. Prerequisite: PSY 211. Each semester at Clarion. Annually at Venango.

**PSY 321: PSYCHOLOGY OF ADOLESCENCE 3 s.h.**

This course focuses on the cognitive, emotional, social, and physical changes of adolescence. Through such topics as: emerging sexuality, intimacy, identity formation, moral development, and vocational development, students will gain an appreciation for the unique developmental challenges of adolescence. Prerequisites: PSY 211 and PSY 260. Annually.

**PSY 331: CHILD PSYCHOLOGY 3 s.h.**

This course focuses on cognitive, social, emotional, and physical development from conception through childhood. Special attention is given to such issues as: the interaction between nature and nurture, how children learn, moral development, parenting styles, and discipline. Prerequisites: PSY 211 and PSY 260. Annually at both Clarion and Venango.

**PSY 340: PSYCHOLOGY OF WOMEN 3 s.h.**

Empirical and theoretical concepts from all areas of psychology provide a base for the study of the changing role of women and the psychological effects upon the individual. Topics include sex-role development consequences, women's alternative roles, women in relation to their bodies, a social-psychological analysis of the women's movement, and mental health considerations. Prerequisite: PSY 211. Annually.

**PSY 350: INDUSTRIAL PSYCHOLOGY 3 s.h.**

This course focuses on applying theories and methods of scientific psychology to improve the way organizations select, train, motivate, retain, and evaluate employees. No prerequisite, but PSY 211 and PSY 230 are recommended. Each semester.

**PSY 354: ABNORMAL PSYCHOLOGY 3 s.h.**

A survey is made of the principal forms of behavior disorders with emphasis on their etiology, diagnosis, prognosis and treatment. Prerequisite: PSY 211. Annually.

**PSY 355: SOCIAL PSYCHOLOGY 3 s.h.**

Study is made of the interpersonal relations of humans and how these are affected by society's norms and values. Prerequisite: PSY 211. Annually.

**PSY 357: INTRODUCTION TO PSYCHOLOGICAL TESTING 3 s.h.**

Covers the nature and use of tests including intelligence, personality, aptitude, interests, and achievement. The student will also prepare behavior objectives, construct tests of items which sample the objectives, administer the tests, and analyze the results. Prerequisite: PSY 230 or the permission of the instructor. Prerequisite: PSY 211. Annually.

**PSY 360: SPECIAL TOPICS 3 s.h.**

This course focuses on a single, broad, contemporary issue of current interest in psychology and related fields of study. Course content varies from semester to semester. May be taken three times for credit. Prerequisite: PSY 211. As required by demand.

**PSY 393: INDEPENDENT STUDY 1-3 s.h.**

An opportunity for the student to explore an area of special interest in depth for variable credit under the supervision of a member of the department and with approval of the chair. Open to juniors and seniors. Prerequisite: PSY 211.

**PSY 452: PHYSIOLOGICAL PSYCHOLOGY 3 s.h.**

The basic goal of this course is to discover the physical and biological mechanisms underlying behavior. Topics include: drugs and behavior, perception, emotions and motivation, sleep, learning and memory, language, psychopathology, etc. A variety of laboratory meth-

ods and techniques are introduced via demonstrations. Open to juniors and seniors. Prerequisite: PSY 211. Annually.

**PSY 454: PERSONALITY 3 s.h.**

Systematic study is made of the development, dynamics, and structure of the self-system together with a critical comparison of the major theories of personality. Prerequisite: PSY 211. Annually.

**PSY 455: LEARNING AND MOTIVATION 3 s.h.**

A critical survey is made of the outstanding attempts to understand and explain the nature of the learning process. Emphasis is placed on a comparison of current theories and their implications when applied to forms of learning and motivation from the simple to the complex. Prerequisite: PSY 211. Annually.

**PSY 456: HISTORY AND SYSTEMS OF PSYCHOLOGY 3 s.h.**

In this course the student will examine the foundations of psychological thought and its development from Greek civilization, through the reformation and to a period of quasi-maturity in the formal system of the late 19th and early 20th centuries. Prerequisite: PSY 211. Annually.

**PSY 457: ADULT DEVELOPMENT 3 s.h.**

Study of the development of human adult behavior from early adulthood through middle age. Special attention is given to the physical, emotional, intellectual, and social aspects of adult development. Prerequisites: PSY 211 and PSY 260. Annually.

**PSY 458: SENSATION AND PERCEPTION 3 s.h.**

The sensory-perceptual processes will be studied with a view to understanding their structure properties and their role in the psychological functioning of human beings. Particular emphasis will be placed on vision and hearing and the differences within and between individuals. Prerequisite: PSY 211. Every other year.

**PSY 459: COMPARATIVE PSYCHOLOGY 3 s.h.**

A study of the underlying genetics and biological controlling mechanisms of animal and human behavior. Special emphasis given to role of evolution and natural selection in the development of behavior adaptations, and to behavioral comparisons between species. Prerequisite: PSY 211. Every other year.

**PSY 460: BEHAVIOR THERAPY 3 s.h.**

This course is designed to introduce students to the field of behavior therapy. Both theoretical foundation and applications to a variety of problems in varied settings will be addressed. Current trends, issues, and ethics in behavior therapy will also be covered. Prerequisite: PSY 211 and PSY 455. Annually.

**PSY 464: INTRODUCTION TO COUNSELING AND PSYCHOTHERAPY 3 s.h.**

This course will introduce students to the field of counseling and psychotherapy. The course surveys the major models in the field, with focus on assumptions and applications in a variety of settings. Professional issues, ethics and current topics are also covered. Prerequisites: PSY 211 and PSY 354 (or approval of instructor). Each semester.

**PSY 465: RESEARCH SEMINAR 3 s.h.**

This course is designed to give students the opportunity to conduct research under the direction of an individual faculty member in the department. Normally the research will be of an experimental nature, however, other projects will also be considered. The work will culminate in a paper of distinguished quality. Prerequisites: PSY 211, PSY 251 and permission of instructor. Annually.

- PSY 467: GERONTOLOGICAL PSYCHOLOGY 3 s.h.**  
Study of the changes in human behavior from late adulthood until death. Special attention is given to the physical, emotional, intellectual, and social aspects of later life. Prerequisites: PSY 211 and PSY 260. Annually.
- PSY 470: SENIOR SEMINAR IN PSYCHOLOGY 3 s.h.**  
An advanced course designed to bring together information from a wide range of psychological sub-disciplines and to provide the student with an opportunity to see how the various aspects of psychology interrelate. Emphasis is placed on analysis of controversial issues, with the intent of developing both the student's expertise in psychology and ability to dissect theoretical controversy. Prerequisite: PSY 211. Annually.
- PSY 499: SUPERVISED FIELD EXPERIENCE 3 s.h.**  
In consultation with the instructor prior to registration, students select a human or community service agency. Ten hours per week are required. Students will be able to observe and experience the skills needed in the helping professions. May be repeated once for credit. Open to students in education, health, and human service programs. Prerequisites: Junior standing, PSY 211 and PSY 460 or 464. Each semester.

## Real Estate

Real Estate Fundamentals and Real Estate Practice are required by the Pennsylvania Real Estate Commission to prepare for the real estate salesperson licensure examination. All of the real estate courses listed below can be used to meet the educational requirements of the real estate brokerage licensure examination.

- RE 370: REAL ESTATE FUNDAMENTALS 3 s.h.**  
This course is designed as an introduction to the broad area of real estate. It seeks to lay a foundation of important principles from which a study in depth may be launched. Prerequisite ECON 212 and ACTG 252. Each semester.
- RE 371: REAL ESTATE PRACTICE 3 s.h.**  
This course examines the role of the agent in the real estate market, the legal and ethical aspects of brokerage, the real estate marketing process, and specialized fields in the real estate business. Prerequisite: RE 370. Each semester.
- RE 372: REAL ESTATE LAW 3 s.h.**  
This course covers the legal relationships and legal instruments involved in listing and selling real property. Prerequisite: RE 370. Each semester.
- RE 373: REAL ESTATE FINANCE 3 s.h.**  
This course is a study of the methods of financing the purchase of real estate, with a brief look at real estate as investment opportunities. Prerequisite: RE 370 or FIN 370. Fall, annually.
- RE 374: BROKERAGE OF REAL ESTATE 3 s.h.**  
Brokerage of real estate deals with the relationship between the broker, the client, and the customer; the broker and the salesperson; and the broker and the public at large. The realtor and ethics are stressed. Prerequisite: RE 370. Spring, annually.
- RE 470: APPRAISAL OF REAL ESTATE 3 s.h.**  
This course is designed to introduce the principles of real estate appraisal to the students. It includes all methods used to appraise real property, and covers both residential and commercial real estate. It is designed to be useful to anyone considering a career in real estate sales and/or real estate appraisal work. The student will have the opportunity to participate in actual real estate appraisals. Prerequisite: RE 370. Fall, annually.



RE 471: REAL ESTATE INVESTMENT ANALYSIS 3 s.h.

This course provides the background necessary to evaluate alternative income-producing real estate investments. Real estate as an investment media will be analyzed in terms of financial and non-financial considerations. The rate of return and inflation-hedge characteristics of real estate investing will be considered in light of risk, illiquidity, and federal tax consequences. Prerequisite: RE 370 and FIN 370. Annually.

## Rehabilitative Science

REHB 405: SUBSTANCE ABUSE 3 s.h.

This is a study of the physiological and psychosocial implication of drug or alcohol abuse, over-medication, and drug dependence, with concern for the processes of intervention, advocacy, treatment, and prevention. Fall, annually.

REHB 410: PREVENTION AND TREATMENT STRATEGIES IN SUBSTANCE ABUSE 3 s.h.

This course involves a study of societal pressures and attempts to prevent substance abuse. Later, the course will focus on prevalent treatment strategies and comparative analysis of efficacy. Prerequisite: REHB 405. Spring, annually.

REHB 460/560: MODELS OF HUMAN SERVICES DELIVERY SYSTEMS 3 s.h.

This course analyzes the purposes, structure and context of the entire network of human services delivery models in Pennsylvania with comparative reference to selected models outside of Pennsylvania. Prerequisite: SPED 310. Fall, annually.

REHB 470/570: THERAPEUTIC AND RESIDENTIAL SERVICE PROGRAMS 3-6 s.h.

This course analyzes the entire spectrum of rehabilitative, therapeutic, recreational, and residential programs, at the service delivery level, that are mandated and provided in Pennsylvania for persons with special needs. Statutes and regulations are studied and practicum experiences are conducted in human service programs. Spring, annually.

REHB 495: FIELD EXPERIENCE IN REHABILITATIVE SCIENCES 7-15 s.h.

This is a full-time, semester-long supervised experience in community based rehabilitation programs for developmentally disabled persons, including professional development experiences in community residential programs, vocational rehabilitation services and MH/MR Base Service Units, or similar social services. Each semester.

*Waiver: Change in prerequisite may be made with approval of the department chair and course instructor.*

## Russian

In addition to the courses listed below, students of Russian have an opportunity to study for a summer, a term, or an entire academic year in the USSR.

RUSS 101: SPECIAL TOPICS: THE EUROPEAN MIND 3 s.h.

Historical and contemporary developments on the European intellectual scene will be covered by experts on individual countries with regard to their relevance for the present American student generation.

The special subject of each semester offering will be announced in pre-registration. Open to all students of the university without prerequisites and may be taken up to three times for credit provided that different topics are offered. Three-year cycle.

- RUSS 109: RUSSIAN LITERATURE IN TRANSLATION 3 s.h.**  
Synoptic studies of major works by Russian writers of the 19th and 20th century with particular emphasis on philosophical ideas, literary methods, and characters which have had a considerable influence upon Russian and other literatures. The course concentrates on comparative studies, with class discussion, reading, and lectures. No prerequisites. Conducted in English. Three-year cycle.
- RUSS 151: RUSSIAN I (ELEMENTARY I) 3 s.h.**  
Essentials of grammar with emphasis on aural comprehension and oral expression. Fall, annually.
- RUSS 152: RUSSIAN II (ELEMENTARY II) 3 s.h.**  
Continuation of RUSS 151, with increasing emphasis on graded reading material. Prerequisite: RUSS 151 or equivalent. Spring, annually.
- RUSS 225: INTRODUCTION TO RUSSIAN PHONETICS AND PRONUNCIATION 3 s.h.**  
An introduction to the Russian phonetic system, including the study of phonemes, intonation, stress and rhythm. Intensive aural/oral training through phonetic dictation with transcription in the International Phonetic Alphabet and practice in diction. Introduction to corrective phonetics. Recommended for majors. Prerequisite: RUSS 152 or equivalent. Three-year cycle.
- RUSS 251: RUSSIAN III (INTERMEDIATE I) 3 s.h.**  
Systemic review of basic grammar; graded readings; conversation; translation; and composition on selected topics. Prerequisite: RUSS 152 or two years of high school study and/or satisfactory placement test score. Fall, annually.
- RUSS 252: RUSSIAN IV (INTERMEDIATE II) 3 s.h.**  
Intensive reading of selected works; outside reading, with oral and/or written reports. Prerequisite: RUSS 251 or a satisfactory placement test score. Spring, annually.
- RUSS 253: SCIENTIFIC RUSSIAN 3 s.h.**  
A study of scientific terminology and style, with extensive readings in various scientific fields. Prerequisite: RUSS 251 or equivalent. Science and mathematics majors may substitute this course for RUSS 252. Three-year cycle.
- RUSS 255: RUSSIAN CIVILIZATION I 3 s.h.**  
A survey of the geography, history, literature, and culture of the Soviet Union designed to equip students with materials and understanding necessary to the presentation of the language as a rich, meaningful, and integral part of a great civilization. Prerequisite: RUSS 252 or four years of high school study and/or satisfactory placement score. Three-year cycle.
- RUSS 256: RUSSIAN CIVILIZATION II 3 s.h.**  
A survey of the geography, history, literature, and culture of the Soviet Union designed to equip teachers with the materials and understanding necessary to the presentation of the language as a rich, meaningful, and integral part of a great civilization. Three-year cycle.
- RUSS 265: INTERMEDIATE CONVERSATION 3 s.h.**  
Practice creative language in conversation, to develop proficiency for everyday situations and travel at intermediate level. Intensive vocabulary enrichment for students who have completed elementary and intermediate language courses and are lacking in aural-oral proficiency. May be substituted either for RUSS 251 or 252 or used for major credit. Three-year cycle.

- RUSS 351: ADVANCED GRAMMAR AND COMPOSITION 3 s.h.**  
Intensive oral and written drill, with emphasis on finer points of grammar, and colloquial and idiomatic usage. English-to-Russian translation, free composition, and conversation on everyday topics. Three-year cycle.
- RUSS 352: INTRODUCTION TO RUSSIAN LITERATURE 3 s.h.**  
Synoptic studies of literary history from the beginning to the present, with discussion on the main trends in Russian thought and its literary expression. Emphasis will be placed on the development of the Russian novel and drama during the Golden and Silver ages of Russian Literature, 19th and 20th century, and prominent writers of the Soviet period. Three-year cycle.
- RUSS 353: THE RUSSIAN DRAMA 3 s.h.**  
Dramatic works of the 19th and 20th centuries in poetry and prose. Studies of stylistics and themes, with special emphasis on the works by Anton Chekhov. Three-year cycle.
- RUSS 354: THE RUSSIAN NOVEL 3 s.h.**  
The great Russian novelists of the 19th and 20th centuries: Gogol, Turgenev, Lermontov, Goncharov, Dostoevsky, and Tolstoy. Major literary movements and philosophies. Epic character of Russian prose and evolution of the genre, poetic prose. Three-year cycle.
- RUSS 355: READINGS IN SOVIET AND RUSSIAN LITERATURE 3 s.h.**  
A survey of Russian literature since the Revolution, from 1917 to the present. New political mood, changes, and literature in the 60's and 70's characterized by human stories as opposed to socialist realism. Three-year cycle.
- RUSS 361: DOSTOEVSKY 3 s.h.**  
Synoptic studies of the life and works of Dostoevsky, with emphasis on his great novels: *Crime and Punishment*, *The Idiot*, *The Possessed*, and *The Brothers Karamazov*. Comparative and contrastive analysis of ideas in major works. Three-year cycle.
- RUSS 451: SUPERVISED READINGS IN RUSSIAN 3 s.h.**  
This course is devoted to selected readings determined in relation to the needs and interests of individual students.

## Science Education

- SCED 322: TEACHING OF ELEMENTARY SCIENCE 3 s.h.**  
Methods of presenting science in the elementary school. Experiences are provided in learning process, scope and sequence of science concepts, methods of investigation, problem solving, laboratory skills, scientific attitudes, newer curricula, reading materials, observing and working with elementary school children, developing, teaching and evaluating lessons. 2 hour lecture and 2 hours laboratory weekly. Each semester.
- SCED 331: BIOLOGICAL INVESTIGATIONS 3 s.h.**  
This course is designed to provide the prospective teacher with a more adequate background in biology and laboratory experiences applicable to science teaching. The course has three aspects (1) identification and natural history of local flora and fauna, (2) application of basic biological principles, and (3) development of skills necessary to carry out biological investigations. On demand.
- SCED 400: SPECIAL TOPICS IN SCIENCE EDUCATION 1-4 s.h.**  
This course deals with topics of special interest to persons interested in science education or pursuing teacher certification. Admission by permission of instructor. On demand.

SCED 456: ELECTRONICS FOR THE HIGH SCHOOL SCIENCE TEACHER 4 s.h.

The course is intended for the science teacher who has had a little or no previous course work in physics or mathematics. The subjects covered include the fundamental law of electricity and magnetism, alternating current theory, and the theory and practical application of such devices as ammeters, voltmeters, oscilloscopes, vacuum tubes, transistors, power suppliers, amplifiers, and oscillators. Examples of some of these devices will be built in the laboratory, and general procedures for trouble-shooting faulty equipment will be illustrated. Summer only, on demand.

SCED 460: SCIENCE CURRICULA IN THE MIDDLE AND JUNIOR HIGH SCHOOL 3 s.h.

A course designed to acquaint students with modern science curricula for the junior high/middle school levels. Recent developments in curricula objectives, science content, teaching strategies, and laboratory activities are stressed. Individual projects included. Spring, odd-numbered years.

SCED 463: ASTRONOMY: OBSERVATION AND FIELD STUDIES 3 s.h.

This is a course in the experimental tools and methods useful in astronomy. It is not an encyclopaedic survey of astronomy, but concentrates on mastery of important techniques and concepts by a "do-it-yourself" process. It complements courses in descriptive astronomy (ES 353 and SCED 550) rather than duplicating them, serving much the same purpose as a laboratory in astronomy. The student will build simple telescopes, spectroscopes, and other astronomical instruments. Summer only.

SCED 466: FIELD PHOTOGRAPHY 3 s.h.

This course is designed to teach the student how to use a modern camera and accessories to photograph subjects in the field. Techniques of close-up, telephoto and wide-angle photography as well as film development, lighting, use of filters and composition will be included. In addition, the student will have a chance to learn and practice techniques for photographing such objects as small animals, birds, flowers, large animals, and other field subjects. Camera and film to be provided by students. Summers, on demand.

SCED 485: PLANETARIUM OPERATION AND MANAGEMENT 3 s.h.

An introduction to the techniques of operation and maintenance of planetarium projects. Opportunities are provided for writing and presenting programs at various levels of instruction. The use of auxiliary projectors, the production of audio-visual materials, multi-media displays, and live versus programmed presentations are emphasized. Prerequisite: ES 353 or consent of instructor. On demand.

## Sociology and Social Work

SOC 211: PRINCIPLES OF SOCIOLOGY 3 s.h.

This is the basic course in sociology dealing with the interaction arising from the association of human beings. Emphasis is placed upon social heritage; the meaning and functions of culture; the characteristics of major social institutions. Each semester.

SOC 250: SPECIAL TOPICS IN SOCIOLOGY  
Offered occasionally.

SOC 300: INTRODUCTION TO SOCIOLOGICAL RESEARCH 3 s.h.

An introduction to the social research process and methods of sociology, including the logic and methods of science; fundamental research methodologies; designs and strategies; basic techniques of data collection, organization, analysis and presentation. Prerequisites: SOC 211; 3 hours in statistics, or permission of the instructor.

**SOC 310: MAJOR FORCES AND FIGURES IN SOCIOLOGY 3 s.h.**

History of pioneers in the field and their conceptualization of Sociology as a science; focuses on the works of particular sociologists whose concepts not only have historical interest but also great impact on the subject matter and methods of contemporary society. Comte, Durkheim, Marx, and Weber to be considered in greater depth. Prerequisite: SOC 211 or permission of the instructor.

**SOC 321: SOCIOLOGY OF WORK 3 s.h.**

A study of occupational and organizational work settings, social meanings, types and social functions of work. Unemployment and its social causes and consequences, will also be analyzed. Selected work place reforms and proposed structural changes of work will be studied. Prerequisite: SOC 211 or ANTH 211. Once annually.

**SOC 340: THE SOCIOLOGY OF CONFLICT RESOLUTION 3 s.h.**

Analysis of social conflict and an introduction to the dynamics of conflict resolution. Emphasis is on examining theories and methods of active nonviolent conflict resolution in small group and large organizational settings. Topics include violence, types of noncooperation, categories of intervention in conflict situations, and civilian-based defense. Cross-cultural data will be used extensively. Prerequisite: SOC 211. Once, annually.

**SOC 351: CONTEMPORARY SOCIAL PROBLEMS 3 s.h.**

This course deals with problems that affect the integration and functioning of society as a whole. Such topics are economic concentration, physical violence, injustice and nuclear war as well as selected solutions to these social problems. Prerequisite: SOC 211 or permission of the instructor. Once annually.

**SOC 352: THE FAMILY 3 s.h.**

This course deals with the development of the family and the home in its historical, economic, and legal aspects. The various factors influencing the organization, disorganization and reorganization of the family as well as the modern trends in the basic institution are considered. Prerequisite: SOC 211 or permission of the instructor.

**SOC 353: SOCIOLOGY OF AGING 3 s.h.**

An overview of aging populations in an industrial societies. Study of influences of social systems, institutions, cultural and environmental factors on successful aging. Examination of age status, role changes, family relationships, social networks, and living environments over the life span. Planned visits to long term care homes are required. Prerequisite: SOC 211 or permission of the instructor.

**SOC 361: SOCIOLOGY OF DEVIANT BEHAVIOR 3 s.h.**

The course examines deviance as a constant social phenomenon, as well as forms of behavior which may be classified as deviant, especially in terms of American society. Emphasis will be given not only to the nature and forms of deviance, but also the reactions and orientations to deviance on the part of the deviant and of the larger society. Prerequisite: SOC 211 or permission of the instructor.

**SOC 362: RACIAL AND ETHNIC MINORITY PROBLEMS 3 s.h.**

Background of racial and ethnic minority group relations. Contemporary aspects of inter-ethnic and inter-racial group problems. Proposals for alleviating and resolving problems and their implications. Prerequisite: SOC 211 or permission of the instructor. Once annually.

**SOC 363: URBAN SOCIOLOGY 3 s.h.**

Study of urban communities, their composition, structure, and development in relation to other types of communities. The growth of mass urban society, population shifts and trends, and their implications for basic social institutions. Special emphasis upon contemporary urban problems and proposals of urban planners and community developers to meet them. Prerequisite: SOC 211 or permission of the instructor.

**SOC 370: POPULATION AND ENVIRONMENT 3 s.h.**

A study of factors influencing the quality and quantity, distribution, growth, and movement of populations. An examination of population trends and the implication for social problems and social policy. Prerequisite: SOC 211 or permission of the instructor.

**SOC 380: COMMUNITY INSTITUTIONS 3 s.h.**

Analysis and study of the nature of community from a sociological perspective focusing on the structure, functions, and interrelationships of its institutions and theories of community organization and development.

**SOC 395: SOCIAL CHANGE 3 s.h.**

Analysis of social change processes through study of major theories of social change and recent investigations in the general area of social change. Examination of major social forces and movements shaping contemporary patterns of social change, e.g., industrialization, rationalization, urbanization. Studies of the impact of inventions, discoveries, revolutions, reform movements and attempts to direct the course of change through various types of planning and development programs. Prerequisite: SOC 211 or permission of the instructor.

**SOC 400: INDEPENDENT STUDY IN SOCIOLOGY**

Concentrated exploration and study of a problem or area of sociology not covered by existing courses and in accord with the student's interest and needs and under the direction of department faculty member. Prior to enrolling in the course, students are required to submit a written proposal outlining their plan of study for the instructor with whom they will be working. Enrollment limited to juniors and seniors with consent of the instructor. Maximum number of credits in SOC 400 is limited to 9.

**SOC 499: SUPERVISED FIELD STUDY 3 s.h.**

With the approval and under the supervision of a member of the faculty in sociology, students are placed in field-work settings, e.g., child welfare agencies, offices of aging, divisions of the criminal justice system, community development agencies, etc., where they will observe and work with persons responsible for carrying out a range of specific human services. Requires a ten-hour commitment each week. May be repeated once for credit. Prerequisites: permission of instructor, junior standing, and six hours in sociology.

**SW 311: PRINCIPLES OF SOCIAL WORK 3 s.h.**

An overview of social work as a profession with an introduction to social welfare agencies, institutions and delivery systems. Students will examine a basic set of concepts, principles and elements of practice. Prerequisites: SOC 211 and either SOC 351 or 363 or consent of the instructor. Fall, annually.

**SW 312: SOCIAL WORK WITH GROUPS 3 s.h.**

A study of the practice of groupwork, one of the core methods of social work, with emphasis on strategies used in various social work settings. Spring, annually.

## Spanish

In addition to the courses listed below, students of Spanish have an opportunity to study for a summer, a term, or an entire academic year in Spain and/or Mexico.

**SPAN 101: SPECIAL TOPICS: THE EUROPEAN MIND 3 s.h.**

Historical and contemporary developments to the European intellectual scene will be covered by experts on individual countries with regard to their relevance for the present American student generation.

The special subject of each semester offering will be announced in pre-registration. Open to all students of the university without prerequisites and may be taken up to three times for credit provided that different topics are offered. Two-year cycle.

- SPAN 109: SPANISH LITERATURE IN TRANSLATION** 3 s.h.  
A study of representative Spanish literary works, with particular emphasis on the characters and ideas which have influenced both Spanish and other literatures. The course is conducted in English; no knowledge of Spanish required; no prerequisites. Two-year cycle.
- \*SPAN 150: INTENSIVE ELEMENTARY SPANISH** 6 s.h.  
Equivalent to SPAN 151 and 152 offered every fall.
- SPAN 151: SPANISH I (ELEMENTARY I)** 3 s.h.  
Essentials of grammar with emphasis on aural comprehensions and oral expression. Each semester.
- SPAN 152: SPANISH II (ELEMENTARY II)** 3 s.h.  
Continuation of SPAN 151, with increasing emphasis on graded reading material. Prerequisites: SPAN 151 or equivalent. Each semester.
- SPAN 153: ELEMENTARY SPANISH CONVERSATION** 3 s.h.  
Conversational practice, with extensive oral drill or grammatical patterns. Designed for those students who have met the prerequisites for SPAN 251 but are lacking in aural-oral proficiency. May be taken concurrently with SPAN 251. Spring, annually.
- SPAN 225: INTRODUCTION TO SPANISH PHONETICS AND PRONUNCIATION** 3 s.h.  
An introduction to the Spanish phonetic system including the study of phonemes, intonation, stress and rhythm. Intensive aural/oral training through phonetic dictation with transcription in the International Phonetic Alphabet and practice in diction. Introduction to corrective phonetics. Recommended for majors. Prerequisite: SPAN 152 or equivalent. Three-year cycle.
- \*SPAN 250: INTENSIVE INTERMEDIATE SPANISH** 6 s.h.  
Equivalent to SPAN 251 and 252 offered every spring.
- SPAN 251: SPANISH III (INTERMEDIATE I)** 3 s.h.  
Systematic review of basic grammar; graded readings, conversation, translation, and composition of selected topics. Prerequisite: SPAN 152 or two years of high school study and/or a satisfactory placement test score. Fall, annually.
- SPAN 252: SPANISH IV (INTERMEDIATE II)** 3 s.h.  
Intensive reading of selected works; outside reading, with oral and/or written reports. Prerequisite: SPAN 251 or a satisfactory placement test score. Spring, annually.
- SPAN 253: COMMERCIAL SPANISH** 3 s.h.  
A study of commercial terminology and style, with extensive practice in the writing of business letters of various kinds. Prerequisite: SPAN 251 or equivalent. Economics and business administration majors may substitute this course for SPAN 252. Two-year cycle.
- SPAN 255: HISPANIC CIVILIZATION I** 3 s.h.  
A survey of Hispanic geography, history, literature, and culture designed to equip students with the materials and understanding necessary to the presentation of the language as rich, meaningful and integral part of a great civilization. Prerequisite: SPAN 252 or four years of high school study and/or a satisfactory placement test score. Required of Spanish majors. Three-year cycle.
- SPAN 256: HISPANIC CIVILIZATION II** 3 s.h.  
Continuation of SPAN 255, which is, however, not prerequisite. Three-year cycle.
- SPAN 260: THE HISPANIC SHORT STORY** 3 s.h.  
A study of representative short stories by Spanish and Latin American writers of the modern period. All readings and discussions in Spanish. Two-year cycle.

SPAN 265: INTERMEDIATE CONVERSATION 3 s.h.

Practice creative language use in conversation, to develop proficiency for everyday situations and travel at intermediate level. Intensive vocabulary enrichment for students who have completed elementary or intermediate language courses and are lacking in aural-oral proficiency. May be substituted for SPAN 251 or 252 or used for major credit. Two-year cycle.

SPAN 351: ADVANCED SPANISH GRAMMAR AND COMPOSITION 3 s.h.

Intensive written drill, with emphasis on finer points of grammar, colloquial, and idiomatic usage. English-to-Spanish translation and free composition on everyday topics. Prerequisite: SPAN 255 and 256 or a literature course. Three-year cycle.

SPAN 352: INTRODUCTION TO SPANISH LITERATURE 3 s.h.

Study and discussion of the main trends in Spanish thought and literary expression. Emphasis is placed on the development of the novel and drama during the Golden Age. Three-year cycle.

SPAN 353: THE MODERN SPANISH DRAMA 3 s.h.

A study of the modern theatre in Spain, with emphasis on Benavente, Garcia, Lorca, Casona, Buero Vallejo, and Lopez Rubio. Three-year cycle.

SPAN 354: THE MODERN SPANISH NOVEL 3 s.h.

The development of the novel in Spain during the 19th and 20th centuries, with emphasis upon the discussion of realism, regionalism, and naturalism. Three-year cycle.

SPAN 355: THE "GENERATION OF 1898" 3 s.h.

Discussion of the principal authors of this group and their influence on 20th century Spanish thought, with an analysis of the role played by historical events in the development of the movement. Three-year cycle.

SPAN 360: SURVEY OF SPANISH-AMERICAN LITERATURE 3 s.h.

Study and discussion of the evolution of Spanish-American literary expression from the colonial period to the twentieth century. Three-year cycle.

SPAN 451: SUPERVISED READINGS IN HISPANIC LITERATURE 3 s.h.

This course is devoted to selected readings determined in relation to the needs and interest of the individual major. On demand.

*\*As a general policy, students who have received credit for a 151 or 251 course in French, German, or Spanish are not advised to take the respective 150 or 250 courses. If students in this situation do decide to take these courses, however, they may only receive three (3) credits for them, i.e., the three (3) credits they would normally receive for a 152 or 252 course.*

## Special Education

SPED 210: HUMAN EXCEPTIONALITIES 3 s.h.

The course is a study of the causes, characteristics, and implications — educational, social, and vocational — of persons who are exceptional because of intelligence, physical development, behavior, vision, hearing, and speech. It also acquaints prospective professional personnel with vocational opportunities in Special Education and Rehabilitation. Each semester on Main Campus, and fall semester at Venango Campus. Multicultural education will be applied.



**SPED 215: HUMAN RELATIONS SKILLS TRAINING 2 s.h.**

This course has been designed to help students grow in their ability to communicate feelings and thoughts, to interact positively and sensitively in group situations, and to apply interpersonal skills to the resolution of professional problems in special education settings. Each semester on Main Campus; fall semester at Venango Campus.

**SPED 220: NATURE OF MENTAL RETARDATION 3 s.h.**

This is a comprehensive study of the biological, psychosocial, and educational implications of retarded mental development, including a consideration of etiology; assessment and diagnosis; educational programs, including preschool and postschool; adult social and vocational adjustment; national and local programs; and research. Prerequisite: SPED 210. Each semester on Main Campus, and spring semester at Venango Campus. Multicultural education will be applied.

**SPED 225: EARLY FIELD EXPERIENCES 1 s.h.**

An early exposure to types of special education programs for various types of exceptional individuals including community programs, institutions, and schools. Each semester on Main Campus, and spring semester at Venango Campus.

**SPED 230: BEHAVIOR DISORDERS 3 s.h.**

This course will familiarize the student with behavior disorders using coexistent classification systems. Characteristics, evaluation, and rehabilitation will be studied with an emphasis on the limitations and responsibilities of various professionals and paraprofessionals. Prerequisite: SPED 210. Offered at Venango Campus only.

**SPED 235: LEARNING DISORDERS 3 s.h.**

A study of the definitions, characteristics, and treatments of learning disorders. Concerns of diagnosis, prescription, and classroom management are presented, with emphasis on the role of the paraprofessional. Prerequisite: SPED 210. Offered at Venango Campus only.

**SPED 240: NEUROLOGICAL IMPAIRMENTS AND PHYSICAL DISORDERS 3 s.h.**

The course presents the major physical anomalies, the reaction of family and individuals to the handicap, therapeutic procedures, rehabilitation services, and direct contacts with persons in programs for the handicapped. Prerequisite: SPED 210. Each semester on Main Campus, and fall semester at Venango Campus.

**SPED 245: BEHAVIOR MANAGEMENT 3 s.h.**

This experience provides persons with knowledge and skills to analyze instructional settings, organize learners for instruction, and maintain a supportive learning climate for handicapped individuals. Prerequisite: SPED 210. Offered at Venango Campus only.

**SPED 250: THE HELPING RELATIONSHIP PRINCIPLES AND PROCEDURES 3 s.h.**

This course will assist students to acquire knowledge and skill in the performance of required tasks and/or roles of Rehabilitative Service staff in developing humanizing environments for exceptional persons in various settings. Prerequisites: SPED 230, 235, 245. Offered at Venango Campus only.

**SPED 295: FIELD EXPERIENCE 6 s.h.**

This is a half-time, full semester field experience in selected programs. The field experience will focus on assisting in the delivery of human/educational services to exceptional individuals. Prerequisites: Minimum of 45 semester hours and SPED 230, 235, 245. Offered at Venango Campus only.

**SPED 305: SPECIFIC LEARNING DISABILITIES 3 s.h.**

The course will focus on the nature of specific learning disabilities. The areas of concern are the history, definition, characteristics, assessment, strategies and tactics of instruction and/or remediation, vocational implications and Federal and State laws and regulations in

regard to the individual who is learning disabled. Prerequisite: SPED 220, 240. Each semester.

**SPED 310: SOCIAL AND EMOTIONAL DISTURBANCES 3 s.h.**

This course focuses upon the nature of social and emotional disturbances, and familiarizes the student with atypical behaviors utilizing current classification systems and theoretical models. History, etiology, nature, characteristics, assessment, and treatment approaches will be emphasized. Prerequisite: SPED 220, 240. Each semester.

**SPED 400: SPECIAL TOPICS 1-6 s.h.**

This course deals with topical themes in Special Education to expand the knowledge and competence of teachers. Enrollment is by consent of the instructor. Summers only.

**SPED 410: EDUCATIONAL APPRAISAL AND PRESCRIPTION I 4 s.h.**

This experience is conducted in the psychoeducational clinic of the Special Education Center and involves observation and active participation in educational diagnostic/prescriptive processes with persons who have learning problems. Prerequisite: SPED 305 and 310. Each semester.

**SPED 415: INSTRUCTIONAL DEVELOPMENT AND STRATEGIES FOR MILDLY/MODERATELY HANDICAPPED 3-6 s.h.**

This is the study of the process of individualizing instruction for children with mild to moderate learning handicaps. It involves designing basic instructional sequences utilizing behavioral objectives, matching media and learner and goal-characteristics, identifying appropriate instructional strategies, and evaluating the effectiveness of instruction. Prerequisites: SPED 410; ELED 323 and 324, with exception of rehabilitative Science majors. Multicultural education will be applied. Each semester.

**SPED 420: INSTRUCTIONAL DEVELOPMENT AND STRATEGIES FOR SEVERELY/PROFOUNDLY MULTIHANDICAPPED 3-6 s.h.**

This is a study of the process of individualizing instruction for children with severe to profound learning handicaps. It involves designing basic instructional sequences utilizing behavioral objectives, matching media with learner and goal-characteristics, identifying appropriate instructional strategies, and evaluating the effectiveness of instruction. Prerequisites: SPED 410; ELED 323 and 324, with exception of rehabilitative Science majors. Each semester.

**SPED 425: BEHAVIOR MANAGEMENT IN SPECIAL EDUCATION SETTINGS 3 s.h.**

This course considers contemporary curricular innovations in educational programs for exceptional children and youth, with particular attention to the sociocultural implications of changing curricular practices and the new instructional media and technology. Prerequisites: SPED 410 with exception of rehabilitative Science majors. Each semester.

**SPED 435: INSTRUCTIONAL DEVELOPMENT AND STRATEGIES FOR THE GIFTED AND TALENTED 6 s.h.**

This course will be (when possible) a workshop with school children and intended to develop the capacity of the educator to plan, develop, deliver and evaluate programs that will help the gifted and talented realize their individual and collective potential. Prerequisites: SPED 210 or PSY 522, or teaching certificate.

**SPED 440: INSTRUCTIONAL DEVELOPMENT AND STRATEGIES FOR CULTURALLY DIFFERENT CHILDREN 3 s.h.**

This is a study of the process of individualizing instruction for children who are not members of the dominant culture and whose cultural membership significantly influences the educational process and school performance. It involves designing basic instructional sequences, selecting and matching media with learner and goal characteristics, identifying

culture-appropriate instructional strategies and evaluating the effectiveness of instruction. Summer only.

SPED 445: SECONDARY, TRANSITIONAL AND VOCATIONAL SERVICES 3 s.h.

This course will examine issues and options relative to secondary educational and vocational services for the disabled. Each semester.

SPED 450: STUDENT TEACHING 6-12 s.h.

Observation and participation in teaching children with retarded mental development and in activities related to the performance of a teacher's work. Prerequisites: SPED 410, 415, 420, 425.

SPED 455: PROFESSIONAL SEMINAR 2 s.h.

Problems, practices, and regulations attending student teaching professional experiences. Coordination of the student teaching program with the educational objectives of the student teaching centers. Pennsylvania school laws relevant to the work of the beginning special educator. Practical interpretations of professional ethics and the functions of professional organizations. Limited to student teachers. Each semester.

SPED 499: INDEPENDENT STUDIES IN SPECIAL EDUCATION 1-3 s.h.

This course is designed to provide students with an opportunity to explore an area of special needs or interest in Special Education in depth under the supervision of a faculty member of the department. Students must develop a proposed study plan and secure the approval of the department chair prior to registration. Prerequisite: Junior or senior standing.

*Waiver: Change in prerequisite may be made with approval of department chair and course instructor.*

## Speech Communication and Theatre

SCT 101-104: SPEECH COMMUNICATION AND THEATRE ACTIVITIES 1-3 s.h.

SCT 101-104 may be taken for 1-3 credits on a contract basis. Students may earn no more than 3 credits each semester through participation in one, or more than one, of the SCT activities, with a maximum of 6 credits possible in SCT 101-104. Credit for SCT activities is **optional** and voluntary participation (without credit) is also encouraged. Instructors determine the number of credits and have the authority to approve/reject any contract for credit in SCT 101-104 based on the student's interest and ability in the activity. Credits earned in SCT 101-104 may be counted toward graduation under Personal Development and Life Skills or Free Electives.

SCT 101: DEBATE 1-3 s.h.

1-3 credits may be earned through participation on the Debate Team by successfully completing the terms of the 'Contract for Credit in SCT Activities,' subject to approval by instructor and department chair. No more than 3 credits may be taken in SCT 101 during any one semester. Students should not enroll in SCT 101 and 256 for credit concurrently. Each semester.

SCT 102: INDIVIDUAL SPEAKING EVENTS PROGRAM 1-3 s.h.

1-3 credits may be earned through participation on the individual Events Team by successfully completing the terms of the 'Contract for Credit in SCT Activities,' subject to approval by instructor and department chair. No more than 3 credits may be earned in SCT 102 during any one semester. Students may not enroll concurrently in SCT 102 and SCT 155, 213, or 254 without instructor permission. Each semester.

SCT 103: THEATRICAL PERFORMANCE 1-3 s.h.

1-3 credits may be earned through performance in College Theatre productions by successfully completing the terms of the 'Contract for Credit in SCT Activities,' subject to approval by instructor and department chair. No more than 3 credits may be earned in SCT 103 during any one semester. Students may not enroll concurrently in SCT 103 and SCT 254, 350, or 361 without instructor permission. Each semester.

SCT 104: THEATRICAL PRODUCTION 1-3 s.h.

1-3 credits may be earned through participation in technical theatre by successfully completing the terms of the 'Contract for Credit in SCT Activities,' subject to approval by instructor and department chair. No more than 3 credits may be earned in SCT 104 during any one semester. Students should not enroll for credit concurrently in SCT 104 and 161, 262, or 351. Each semester.

SCT 112: ORAL COMMUNICATION FOR NON-NATIVE SPEAKERS 3 s.h.

This course is designed to help college students who are non-native speakers of English to improve their oral communication competence in the U.S. An experiential learning approach with emphasis on activities that promote involvement and interaction with the host culture will be adopted. Students are expected to make several oral presentations. Native speakers of English are not permitted to enroll. A student may not take both SCT 112 and SCT 113 for credit.

SCT 113: FUNDAMENTALS OF SPEECH 3 s.h.

Study, application, and evaluation of principles of organization, evidence, reasoning, critical thinking, verbal and nonverbal behavior, one-way and two-way communication, and small group interaction in the oral communication setting; emphasis upon meeting the individual needs of students through individualized instruction utilizing communication experiences. Each semester.

SCT 115: PARLIAMENTARY PROCEDURE 3 s.h.

The objective of the course is to investigate procedures used by members and officers of decision-making bodies in committees, groups, government, and formal organizations. Fall, annually.

SCT 120: THEATRE PLAY PRODUCTION 3 s.h.

Introductory work in elements of theatre, including directing, acting, make-up, criticism, stagecraft, and stagelighting. No prerequisites. Fall, annually.

SCT/ENG/  
HON 125: MODES OF DISCOURSE 6 s.h.

An interdisciplinary course which aims to integrate the students' production of both written and spoken discourse. The course is an alternative method of teaching communication, and draws upon the skills of instructors from English and Speech Communication Theatre. Taken by freshmen enrolled in the Honors Program, and will replace both ENG 111 and SCT 113. (Not open to students who have taken ENG 111 or SCT 113.)

SCT 155: INTERPRETATION I 3 s.h.

The objective of the course is to develop expressive presentational skills through practice in the oral interpretation of literature. Focus is on analyzing an author's meaning, responding to it, communicating that meaning to an audience and correlation of oral interpretation with other arts. Fall, annually.

SCT 161: STAGECRAFT 3 s.h.

A study of the theory, materials, and practice of stage construction. In addition to technical instruction, significant emphasis is placed on the relationship between the dramatic function of the setting and its actual physical realization. Student projects and required production labs provide practical experience. Fall, annually.

**SCT 200: INTERPERSONAL COMMUNICATION THEORY  
AND PROCESSES**

3 s.h.

The course focuses on the study of interpersonal communication, specifically the investigation of major theories and research in the field and the application of those theories to improving the students' interpersonal skills. Prerequisite: SCT 113 or consent of instructor. Each semester.

**SCT 201: DANCE I**

3 s.h.

Focus on alignment, strength, flexibility, balance and locomotor movement. Styles of dance surveyed include: Jazz, ballet and tap. For actors: A working knowledge of dance styles for performance and auditions. For everyone: An exploration of personal movement potential and an appreciation for the art of dance. Fall, annually.

**SCT 210: INTRODUCTION TO RHETORICAL THEORY**

3 s.h.

The course is designed to investigate, on a fundamental level, the historical and conceptual development of the major theories of rhetorical discourse. Theories from classical to contemporary are applied to analysis of the spoken word. Course stresses speech making and criticism of historical and current political rhetoric. Spring, odd numbered years.

**SCT. 213: ADVANCED PUBLIC SPEAKING**

3 s.h.

Inquiry into the practice and principles of effective public speaking. Detailed analysis of the areas of invention, arrangement, style, and delivery, and an introduction to speech criticism as a tool to improve the speaker's own abilities. Prerequisite: SCT 113 or consent of instructor. Each semester.

**SCT 214: BUSINESS AND PROFESSIONAL SPEAKING**

3 s.h.

This course will focus upon how people use speech communication skills in business and professional settings. It will survey modern speech communication theory, as well as coping in groups, listening, negotiation, influencing others, instructional communication and barriers to effective business and professional speaking. This course is both theory and performance based, and students are expected to make several oral presentations. Prerequisite: SCT 113 or consent of instructor. Each semester.

**SCT 215: SPECIAL TOPICS IN SPEECH COMMUNICATION  
AND THEATRE**

1-6 s.h.

This course focuses on offering special topics reflecting the interest of students. The course content varies from semester to semester. Suitable for both majors and non-majors in Speech Communication and Theatre. May be taken for a maximum of 9 credits in the major. On demand.

**SCT 251: VOICE AND ARTICULATION**

3 s.h.

The objective of this course is to help students improve their speech by the elimination of faulty voice and articulation habits. Attention is given to such basic skills as vocal variety, projection, breath control, tone production and articulation. Tape recordings are used as a helpful device of analyzing problems and noting progress. Each semester.

**SCT 253: INTRODUCTION TO THE THEATRE**

3 s.h.

A study of the techniques and contemporary practices in the organization of dramatic material, survey of division of labor for creation of dramatic material, and an analysis of the literary concepts, such as realism and existentialism, that motivate the contemporary audience. Each semester.

**SCT 254: ACTING I: IMPROVISATION**

3 s.h.

Creative exploration that tests student feelings and thoughts about the immediate environment and beyond. For actors: A foundation in technique. For everyone: The opportunity to respond spontaneously. Suitable general elective for non-theatre majors. Fall, annually.

- SCT 255: INTERPRETATION II** 3 s.h.  
Training in the advanced techniques of the oral interpretation of the three major literary genres and their structures with respect to oral presentation: 1. Poetry, 2. Prose Fiction, 3. Drama. Prerequisite: SCT 155 or consent of instructor. Spring, odd numbered years.
- SCT 256: ARGUMENTATION AND DEBATE** 3 s.h.  
Study of argumentation in the area of academic debate and the legal world. Emphasis is placed on applying theories and techniques of argumentation to developing analytical abilities, reasoning, use of data and evidence to support arguments. Fall, annually.
- SCT 262: STAGE LIGHTING** 3 s.h.  
An introduction to the theory and practice of theatre lighting. Areas of study range from the purpose and aesthetics of lighting for the theatre and allied fields of television, film, and concerts, to its mechanics and control, including sections on optics, electrical theory and color. Student projects and required production labs provide practical experience in stage lighting. Prerequisite: SCT 161 or consent of instructor. Spring, annually.
- SCT 264: DISCUSSION** 3 s.h.  
The course is designed to expand the students' knowledge of the concepts and theories of group communication. Emphasis is placed on the task, leadership and interpersonal skills of group participants. Each semester.
- SCT 300: COMMUNICATION IN ORGANIZATIONS** 3 s.h.  
This course is designed to give insight into traditional and modern concepts of channels of communication in simple and complex organizations with emphasis on informal and formal group dynamics, interpersonal relationship, leadership, communication theory, and creativity. Considerable attention is given to interviewing. Each semester.
- SCT 301: DANCE II** 3 s.h.  
Continuation of technique learned in Dance I. Application of this technique is transferred to choreographed pieces. Students are given the opportunity to choreograph their own works and/or perform. Prerequisite: SCT 201 or consent of instructor. Spring, odd numbered years.
- SCT 302: INTRODUCTION TO CHOREOGRAPHY** 3 s.h.  
An introduction to dance composition with an emphasis on spatial design, sources of movement and exploring the basic elements of space, time and energy through improvisation, short movement studies and dances which are presented, discussed and reworked in class. Prerequisite: SCT 301.
- SCT 304: DANCE REPERTORY** 3 s.h.  
This course is designed to provide the student with the opportunity to learn and perform a complete dance choreographed in class by the instructor. Students will both gain experience as performers in an intensive company-workshop atmosphere and learn how an experienced choreographer uses skills of dance composition and the strengths of the dancers to choreograph a new work. The finished dance will be performed in class and as part of a student dance concert on campus. Prerequisite: SCT 301 or 302 or permission of instructor.
- SCT 310: THE RHETORIC OF CONFLICT** 3 s.h.  
This course introduces the student of rhetorical theory to the tools for analysis of individuals and groups which seek change in the political and social sphere, outside the normal decision-making process. Spring, even numbered years.
- SCT 311: PERSUASION** 3 s.h.  
Study and practice in persuasive speaking. General theories of persuasion, the role of persuasion in a democratic society, and an introduction to modern experimental research in the area included. Spring, odd numbered years.

**SCT 312: GENERAL SEMANTICS 3 s.h.**

An investigation to the relationship between words and the realities they represent. Special emphasis will be given to an understanding of personal, political, and international problems that arise due to semantic breakdown in the communication process. Fall, annually.

**SCT 333: SUMMER DIRECTION OF FORENSICS WORKSHOP 3 s.h.**

A two week course designed to introduce the college student to high school debate and individual events. The course orients the college student to coaching and directing high school debate and individual events as well as administering forensic tournaments. Application is provided by a coinciding non-credit high school workshop. The student will be concentrating in either debate or individual events, with the option of taking the course on a second occasion to gain concentration in the area not previously studied. Prerequisite: At least 2 of the following: SCT 113, 213, 256, 257, or consent of the instructor. May be taken on two separate occasions for a maximum of 6 credits. On demand.

**SCT 350: SUMMER DRAMA WORKSHOP 3 or 6 s.h.**

The summer drama workshop combines study and practice in the dramatic arts and includes formal, intensive study in acting, play production, direction, makeup, scene design, stage lighting, and stagecraft. In conjunction with the workshop, Clarion University sponsors a Summer Theatre Company consisting of members of the workshop which produces major shows. Summer, annually.

**SCT 351: ADVANCED THEATRE PRODUCTION 3 or 6 s.h.**

Advanced study and practice in the dramatic arts, including projects in scene design, theatre management and acting. Students will work with members of the Summer Drama Workshop in the production of major plays for the Clarion Summer Theatre. Prerequisite: SCT 120 or 350. Summer, annually.

**SCT 352: PLAY DIRECTING 3 s.h.**

A study of the fundamentals and procedures of play directing and problems faced in educational theatre, including analysis of the script, methods of casting, and rehearsal. Students direct one-act plays for public presentation. Fall, even numbered years.

**SCT 355: INTERPRETATION OF PROSE FICTION 3 s.h.**

Practice in the oral expression of the dynamics of narrative prose fiction. Specifically, it affords the student of interpretation an in-depth experience with focus on gaining performance skills and developing knowledge of archetypal themes. Prerequisite: SCT 155. Spring, even numbered years.

**SCT 357: ADVANCED DEBATE 2 s.h.**

Further experience in competitive debating and in a variety of debating forms is provided. Prerequisite: Consent of instructor. On demand.

**SCT 358: PSYCHOLOGY AND SPEECH COMMUNICATION 3 s.h.**

This is a theoretical survey course which examines the psychological aspects of communication codes, interpersonal communication, structural communication and the interaction of mediated communication. Spring, annually.

**SCT 359: HISTORY OF THE THEATRE 3 s.h.**

History of plays and playwrights from the fifth century B.C. to the present. Spring, annually.

**SCT 361: ACTING II: PRINCIPLES OF CHARACTERIZATION 3 s.h.**

1. Basic Concepts. 2. Characterization in scene study. 3. Ensemble and advanced scene study. Prerequisite: SCT 254 or consent of instructor. Spring, even numbered years.

- SCT 362: SCENOGRAPHY 3 s.h.**  
Study and practice in the aesthetics, methods, and techniques of scenic design, utilizing Epic and Stanislavskian scenographic analysis. Prerequisite: SCT 161 or consent of instructor. Spring, odd numbered years.
- SCT 363: THEATRICAL MAKE-UP 3 s.h.**  
Fundamentals and application of stage make-up. Fall, odd numbered years.
- SCT 364: SCENE PAINTING FOR STAGE 3 s.h.**  
Studio instruction in the use of brushwork and pigment to develop landscape, ornament, panelling, and architectural detail in stage scenery based on the analysis of form and source of light. Fall, even numbered years.
- SCT 365: ACTING FOR TELEVISION 3 s.h.**  
Designed to acquaint the student with the visual and oral techniques of movement, voice and characterization required for television productions. Prerequisite: acting students enrolled in the BFA program or instructor's consent. Spring annually in conjunction with COMM 660: TV Production.
- SCT 366: STAGE DIALECTS 3 s.h.**  
The course focuses on the major dialects for the stage based upon study of the international phonetic alphabet. Prerequisite: SCT 251: Voice and Articulation or consent of instructor. On demand.
- SCT 367: THEATRICAL COSTUMING 3 s.h.**  
The emphasis of this course is on the designing and building of costumes for the stage. Related to this basic emphasis are understanding costume history, fashion trends and rationales, developing a sense of visual design, incorporating the elements of color, tone, shape, texture, and a sense of theatre. Student projects and required lab provide experience in the craft. Spring, even numbered years.
- SCT 375: NON-VERBAL COMMUNICATION 2 s.h.**  
This course is designed to increase the awareness of students in the areas of nonverbal communication. The course describes and analyzes the various concepts of nonverbal communication, applies them to actual situations and relates them to the entirety of the communication process. Spring.
- SCT 400: CROSS CULTURAL COMMUNICATION 3 s.h.**  
The course is designed to make the student aware of the role played by culture in developing personal attitudes, values, and behavior, and to apply this awareness to communicating across cultural differences in a variety of situations including interviewing, group discussion, and negotiation. Offered on a tri-semester basis.
- SCT/COMM 411: FOUNDATIONS OF BROADCASTING 3 s.h.**  
An introduction to the broadcasting industry including history, technical aspects, station and network organization, advertising, ratings, social influences, programming and production. A foundation course for radio-TV career preparation, related fields of communication, and the development of knowledgeable consumers of the broadcast media. Fall, annually.
- SCT 415: HONORS SEMINAR IN SPEECH COMMUNICATION 3 s.h.**  
This course is made available only to students who demonstrated a willingness and ability to undertake advanced academic work in the area of Speech Communication. Admission by department invitation only. On demand.



SCT 461: STYLES OF ACTING 3 s.h.

Playing the character within the framework of the theatrical event. The course focuses on how to recognize style/period through the text and how to solve the problems of assuming and communicating style. Prerequisite: SCT 254 and 361 or consent of instructor. Spring, odd numbered years.

SCT 490: INDEPENDENT STUDY 1-3 s.h.

Selected topics for research and/or performance projects in Speech Communication and Theatre. Prior to registration students need to obtain an advisor who will direct their study. Approval by appropriate dean required.

SCT 495: INTERNSHIP IN SPEECH COMMUNICATION AND THEATRE 1-12 s.h.

The internship program gives the student the opportunity to apply classroom theory and techniques in business, government, theatre, and other cooperating organizations. Course open to any Speech Communication and Theatre major with a junior or senior standing with consent of Department. Student must have a 2.5 Q.P.A. or higher and 3.00 Q.P.A. in a major. On demand.

## Speech Pathology and Audiology

SPA 125: INTRODUCTION TO COMMUNICATION DISORDERS 3 s.h.

This course serves as an introduction to the area of communication disorders and encompasses the wide variety of problems that humans may have in speech, language and hearing. Focus of the course is on the nature of such problems, their causes, their impacts on people, methods for their evaluation, and methods for their management. Included is an orientation to the professions of speech-language pathology and audiology.

SPA 450: SPEECH SCIENCE 3 s.h.

This course studies models of the speech mechanism. Normal aspects of the physiology and acoustics of speech production are strongly emphasized. Fall, annually.

SPA 451: ANATOMY OF SPEECH AND HEARING MECHANISMS 3 s.h.

Study of the anatomy and physiology of the speech and hearing mechanisms. Fall, annually.

SPA 452: SPEECH PATHOLOGY I 3 s.h.

This course is an introduction to the profession of Speech Pathology emphasizing the description, diagnosis and treatment of voice, articulation, and stuttering disorders. Fall, annually.

SPA 453: SPEECH PATHOLOGY II 3 s.h.

This course emphasizes the description, diagnosis, and treatment of aphasia, dysarthria, apraxia, and orofacial anomalies. Spring, annually.

SPA 454: ORGANIZATION AND ADMINISTRATION OF SPEECH AND HEARING PROGRAMS 3 s.h.

Teaching techniques, source materials, visual aids, special techniques to be employed in speech pathology and the organization and administration of clinical programs in a variety of environments are studied. On demand.

SPA 455: SPEECH, LANGUAGE, AND HEARING PROBLEMS IN THE SCHOOLS 3 s.h.

Designed to acquaint students with speech problems common to children on the elementary level. Emphasis is placed on the study of materials, methods, and techniques used by the classroom teacher in improving the speech of all children. On demand.

- SPA 456: PHONETICS AND PHONOLOGY 3 s.h.**  
Transcription of normal and deviant speech using the International Phonetic Alphabet. Application of phonetics and phonemics to language and speech pathology. Instruments used in speech and hearing are studied. Spring, annually.
- SPA 457: DEVELOPMENTAL SEQUENCES IN LANGUAGE AND SPEECH 3 s.h.**  
This course is a study of the development of language and speech in the normal child. Normative data in speech and language development are studied. Each semester.
- SPA 458: LANGUAGE DISORDERS IN CHILDREN 3 s.h.**  
This course is designed to provide students with an understanding of language disorders in children, etiological factors associated with them, diagnostic and evaluative techniques, and therapeutic methodologies. Prerequisite: SPA 457. Spring, annually.
- SPA 460: HEARING PROBLEMS 3 s.h.**  
The nature of hearing disorders and the audiological, medical, social, psychological, and educational implications are investigated. Fall, annually.
- SPA 463: SPEECH READING AND AUDITORY TRAINING 3 s.h.**  
A comprehensive study of auditory rehabilitation with emphasis upon auditory training, speech reading, and speech training. Prerequisite: SPA 460. Spring, annually.
- SPA 464: AUDIOLOGY 3 s.h.**  
A continuation of SPA 460: Hearing Problems. Prerequisite: SPA 460.
- SPA 465: MANUAL COMMUNICATION 3 s.h.**  
The course covers a comprehensive review of the theories of manual communication including an introduction to the major manual communication systems. The student will learn to sign and finger spell for use in communicating with and rehabilitation of the deaf and hard of hearing.
- SPA 467: CLINICAL OBSERVATION 3 s.h.**  
This course covers basic information pertaining to the profession of speech pathology and audiology. The student is given an orientation to the facilities, equipment, and operations of the Clarion University Speech and Hearing Clinic. Various types of clinical reports are studied and the student taught basic observational skills both in the classroom and clinic as a prerequisite for client contact for speech and hearing science majors.
- SPA 472: SEMINAR IN SPEECH SCIENCE 3 s.h.**  
This course begins with a review of the speech mechanism as a servosystem and transducer, and basic knowledge of the physics of sound. The remainder of the course focuses attention and is structured on the concept that the speech mechanism is a chain of events physiologically, acoustically, and perceptually. Each link in this chain of events is studied in terms of basic knowledge, pertinent research, and each link's contribution to the speech chain as a whole. Prerequisite: SPA 465 or a basic course in phonetics and/or speech science. Each semester.
- SPA 423: PROFESSIONAL PRACTICUM 2 s.h.**  
Problems, practices, and policies relative to the clinical externship are identified and discussed. Topics include professional issues such as certifications, licensure, ethics, organizations at the state and national levels, and the role of the speech pathologist in the schools of Pennsylvania. Each semester.
- SPA 498: SPECIAL TOPICS 1-6 s.h.**  
Topics in various areas of Speech Pathology and Audiology. The format used will be selected by the professor as most suitable to the study. The course may be offered on request of students, subject to the availability of staff. Enrollment by consent of the instructor. On demand.

SPA 499:

INDEPENDENT STUDIES IN

SPEECH PATHOLOGY AND AUDIOLOGY

1-3 s.h.

This course is designed to provide students with an opportunity to explore an area of special need or interest in Speech Pathology and Audiology in depth under the supervision of a member of the department. Students must develop a proposed study plan and secure the approval of the proposed director and department chair prior to registration. Prerequisite: Junior or senior standing. Repeatable for a maximum of 6 s.h.

# Directories

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## Administration and Faculty

Year in parentheses indicates year of appointment to faculty.

LEONARD M. ABATE, (1966), M.A., Assistant Professor, History Northern Illinois University, B.A., M.A.
LEONARD ACKERMAN, (1981), Ed.D., Professor, Administrative Science Rutgers, The State University, B.A.; George Washington University, Ed.D.
PAULA AMROD, (1981), D.Mus., Assistant Professor, Music Memphis State University, B.M., M.M.; Indiana University, D.Mus.
LORRAINE AMSDELL, (1971), M.Ed., Assistant Professor, Nursing Oil City School of Nursing, R.N.; University Pittsburgh, B.S.N.; Edinboro University, M.Ed.

- DIANA LYNN ANDERSON, (1987), M.A., Director of Greek Life and Special Activity Programs  
Indiana University of PA, B.A.,M.A.
- MARK E. ANTHONY, (1986), M.A., Counselor, Career Services  
Indiana University of Pennsylvania, B.S.B.Ad., M.A.
- INEZ BAKER, (1966), M.A., Associate Professor, Communication  
University of Cincinnati, B.S.; Teachers College, Columbia University, M.A., Prof. Diploma.
- ROBERT H. BALDWIN, (1971), Ph.D., Professor, Education  
Wesleyan University, B.A.,M.A.T.; University of Pittsburgh, Ph.D.
- ROBERT BALOUGH, (1981), Ph.D., Professor, Economics  
Northern Illinois University, B.A.,M.A.,Ph.D.
- ARTHUR H. BARLOW, (1980), M.A.J.C., Associate Professor, Communication  
University of Puget Sound, B.A.; University of Washington, M.A.; University of Florida, M.A.J.C.
- GREGORY D. BARNES, (1976), M.B.A., CPA, Assistant Professor, Accountancy  
University of Maryland, B.S.,M.B.A.
- WILLIAM S. BARNES, (1984), Ph.D., Associate Professor, Biology  
Marietta College, B.A.; University of Massachusetts, Amherst, Ph.D.
- MICHAEL BARRETT, (1983), M.S., Assistant Professor, Chair, Computer Information Science  
Boise State University, B.B.A.; Texas Tech University, M.S.
- NORBERT BASCHNAGEL, (1974), M.Ed., Associate Professor, Health and Physical Education  
State University of New York at Buffalo, B.Ed., M.Ed.
- FRANK T. BATTISTA, (1970), Ed.D., Associate Professor, Education  
University of Chicago, Roosevelt University, B.M.; The Pennsylvania State University, M.Ed.,Ed.D.
- PAUL E. BECK, (1966), Ph.D., Professor, Chemistry  
Franklin and Marshall College, B.S.; Duquesne University, Ph.D.
- WILLIAM R. BELZER, (1982), Ph.D., Associate Professor, Biology  
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Oil City School of Nursing, Slippery Rock State College, B.S.N.; Edinboro University, M.S.N.
- VAHE H. BERBERIAN, (1965), Mus. Dipl., Associate Professor, Music  
Lebanese Academy of Fine Arts, Mus. Diploma
- CHARLES BERING, (1988), Ph.D., Associate Professor, Chemistry  
University of Houston, B.S.; Purdue University, Ph.D.
- JAMIE BERO, (1988), M.A., Resident Director  
Ohio State University, A.A.,B.S.,M.A.
- GEORGES BERUBE, (1987), M.B.A., Director of Financial Management  
University of Southern Maine, B.S.; University of Maine, M.B.A.
- NICHOLAS J. BEZAK, (1968), Ph.D., Professor, Mathematics  
The College of Steubenville, B.A.; Carnegie-Mellon University, M.S.; University of Pittsburgh, Ph.D.
- DIPENDRA BHATTACHARYA, (1986), Ph.D., Associate Professor, Mathematics  
Banaras Hindu University, B.S.,M.S.; Queens University, Canada, B.S; State University of New York at Stony Brook, M.S.,Ph.D.
- J. DOUGLAS BILLS, (1981), B.S., University Registrar  
Clarion University, B.S.B.A.
- KAREN S. BINGHAM, (1986), M.Ed., Assistant Professor, College Services  
Cornell University, B.A.; SUNY Fredonia, M.Ed.
- GERALD C. BISH, (1976) J.D., Assistant Professor, Finance  
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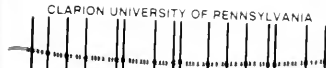
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